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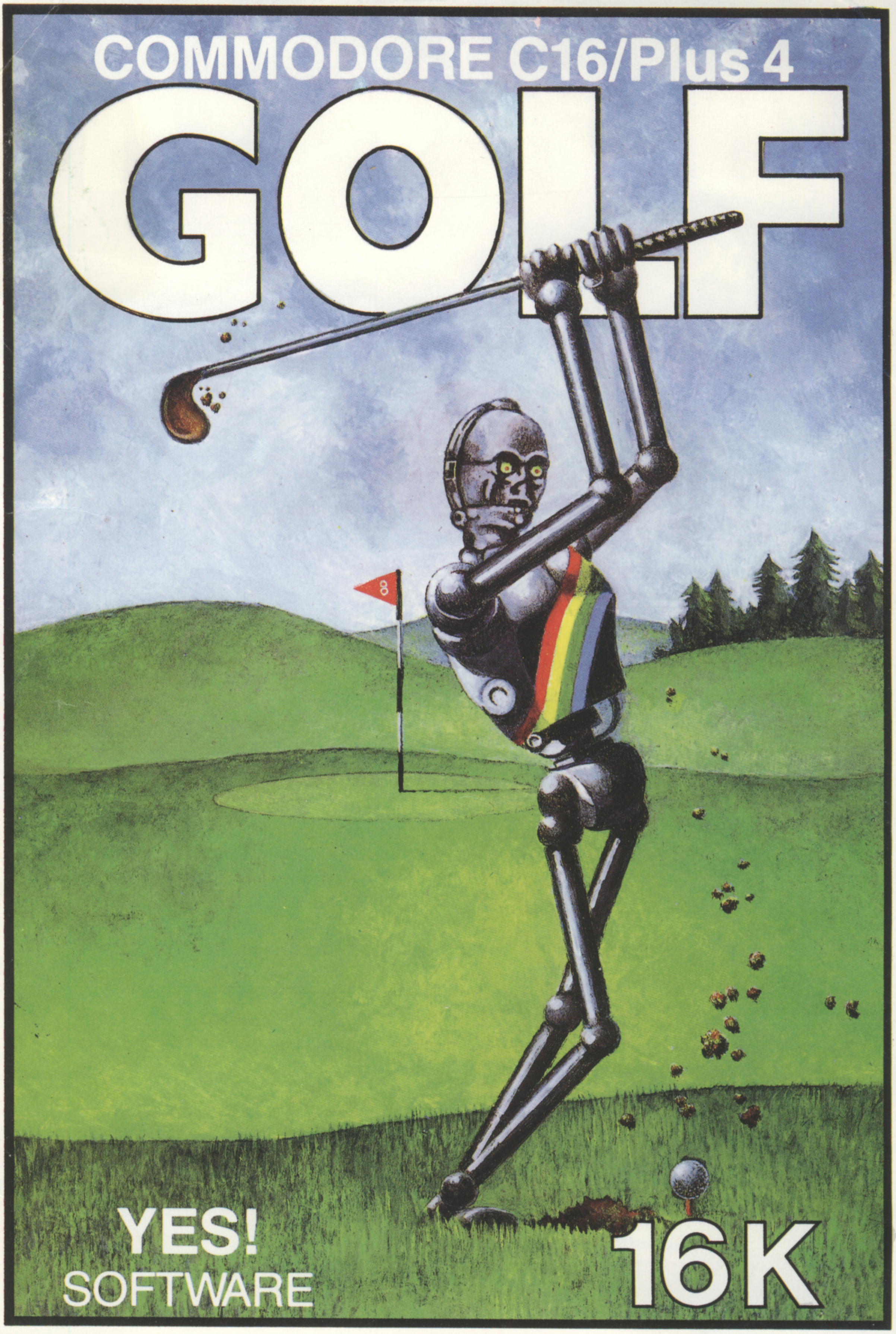
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Take a look at this issue, Horizons Readers! This one could probably be the best Commodore magazine in the universe

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Vol 5 No 1
August 1986

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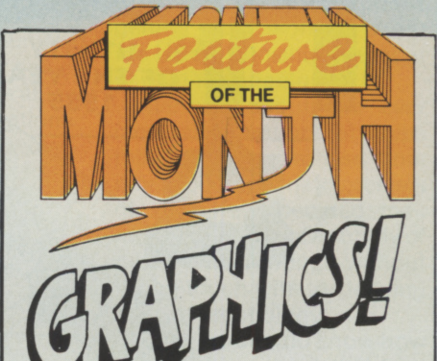

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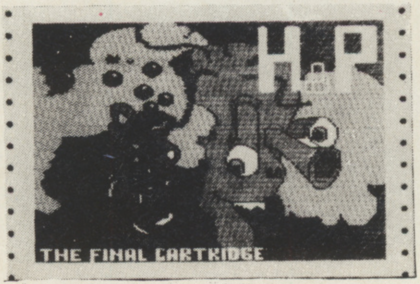
* works with C128 in the 64 mode.



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ON/OFF SWITCH - we hope you never need that one.

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NEWS AT 10

Level 9, the leading UK adventure house, are planning some new special products over the next few months.

They are expanding their successful relationship with Mosaic, (publishers of The Secret Diary Of Adrian Mole) and producing two interactive text games. 'THE GROWING PAINS OF ADRIAN MOLE' is due this summer, followed by a reportedly hilarious 'ARCHERS' game written by the radio programme scriptwriters.

Level 9 have established a similar relationship with Rainbird, a software branch of British Telecom. Rainbird will be publishing some Level 9 games this year, beginning with 'JEWELS OF DARKNESS'. This is 'the ultimate, mega-mix version' of Level 9's Middle Earth adventures, enhanced with extra text, pictures, multi-tasking and other features of their latest adventure system. To follow, 'KNIGHT ORC' turns the tables on hack-and-slay adventurers. You play an Orc hero, whose fellow Orcs have been attacked, maimed and killed since the time when adventures began. It's your chance to seek revenge.

Two games for the Autumn are in production, and they are planning a 'live-by-phone' game, codenamed 'AVALON'. It will be something like 'MUD', but the hardware has, they tell us, about one hundred times the effective power. The game should have at least ten thousand real locations and a thousand computer-controlled people to talk to. It will even have its own history and calendar, with each month in the real world corresponding to a year in the game.

Pentagon Scare

Now we all know how the Ronnie and the White House feel about foreigners (better dead than red and all that), but it seems the Pentagon is getting very worried about the US's diminishing number of chip manufacturers.

Alarmed about the ever increasing amount of chips they have to purchase from other countries, the joint chiefs of staff have decided they must make sure of a supply of native chips, though without losing touch with the leading edge of technology.

Soon we should know how they have squared this particular circle. CCI will certainly keep you updated about this interesting brand of zenophobia.

Save Effort

A new range of document scanners has been announced by Partec Systems. Partec Scanners are used for inputting text generated outside the organisation or for putting archived material back on to a word processing system. Converting from one word processor to another is as simple as printing the documents.

Using the latest optical character recognition techniques, the systems can recognise most of the standard 10 and 12 pitch daisywheel and golfball typefaces plus several proportionally spaced fonts. The scanned information is converted to a form suitable for the host word processor, including the commands for formatting the document.

A4 pages are scanned automatically at a speed of 120 pages per hour. Software is supplied with the unit to interface with a wide variety of PC based programs. Image scanning software for the PC will follow shortly.

One small problem, the units are claimed to be less than half the price of comparable systems, but still cost £4,950 plus VAT!!

Contact: Partec Systems on 01-642 6500.

9 × 9 = NLQ

Another US software package is just becoming available in the UK. Distributed by Ideal Software, and available for all PC compatibles, it allows any normal Dot Matrix Printer (including Epsons, C.Itohs, IBMs and BPIs) to increase their matrix size to 24 x 16.

This product also gives the user 20 new fonts, including Roman, Courier, and Prestige to name but three. It costs £75, and Ideal can be contacted on 01-399 2206.

Warning, Micropro hit back!

Until recently, Micropro were offering amnesty to all purchasers of illegal copies of any of their Wordstar products, in return for £40. This money would enable them to be officially licensed, and they would receive official bulletins and updates.

Now that the amnesty has expired, Micropro have promised to take a very tough line on any company or user found with an illegally pirated copy.

China Girl

Bad news for computer manufacturers in China is that they will soon all need to get government permits to keep on going. In order to get one of these permits each company must have quality control that tests each micro for at least six hours before it leaves the factory. Maybe Sinclair would still be around if he'd been in China?

Intellirobots

Europe's Eureka programme has announced its first tangible product. They are Robots that have enough 'Intelligence' to be used for such dangerous tasks as fire-fighting and disaster rescues.

As well as this product Eureka are planning other products, including a new flying boat. A replacement of the Grummond Goose?

No Entry

Wordcraft, an excellent British wordprocessor, has recently started to include the ability to code all files away, with a password needed to access them, thus helping people to meet the requirements of the Data Protection Act.

MicroPro go Astron.

MicroPro International, the producers of Wordstar, have announced that they will be producing Superscript, the Word Processor for the 64 and 128, on Astron card from the middle of this year. *(See CCI June 1985)*

It is expected that you will be able to purchase Superscript together with the Astron Card and adaptor for under £100, making it an extremely viable alternative to disks.

More Cards

SmartCard International, producers of a card that can handle data storage and calculations, have sold prototypes to the large US Consumer Credit company - Visa USA.

If this company decide to use these products regularly, there will no longer be a need for on line authorisation terminals, as the card will remember account details.

...news ...news ...news ...news

Optical Arrives

Europe's first optical computer will be demonstrated at Edinburgh this month – with the rest of the world clamouring to get their grubby little hands on it!

Designed by the Herriot-Watt team, it is expected that the speed increase in processing terms will be phenomenal, as it will get away from the restrictions of electronic wiring.

Multi-user single PC?

That headline might not make a lot of sense, but a Massachusetts base company, Zaki, has released a software package that allows two users to 'share' one PC. The system comes with an extra keyboard, and allows you to split the processor. Users can exchange files, work on different applications, or share a program. It retails at $595, which is cheaper than another PC and a network system!

Organize yourself

People who want to get one-up on the trendy Filofax crowd will be very happy to hear that Psion have released a new, and much improved version of their Organiser – imaginatively called the Organiser II.

It can store almost any details you want, names, addresses, telephone numbers, as well as perform a wide variety of programming and terminal functions – an optional RS232 cable can give you access to databases such as Telecom Gold.

It can also be used as a a comprehensive mathamatical, or financial planner. Personally, the saving grace for me is that they have improved the keyboard no end, and it is now very useable indeed.

Melbourne hit U.S.A.

Firebird are not the only people to have hits in the US. Melbourne House, following on from The Hobbit and Exploding Fist, Bop'n'Wrestle (Rock'n'Wrestle to the UK) has become an overnight success in the US.

This comes as a great surprise to all the UK games players who were mostly very disappointed with this particular game; Ah well, different countries, different tasks.

Floppy Aid

Although unlikely to be given hours of television publicity, Floppy Aid is still worth a mention. During the month of August, some Floppy Disk manufacturers are donating one penny for every disk sold. At first this may not sound like much, but it is estimated that the total will reach more than £20,000 – all of which will be passed on to the Band Aid Trust.

Tape 3 + 1 = Success

All the Plus/4 owners who bought their machines packaged with cassette recorders, only to find that none of the built in software operates with cassette – a brilliant example of Commodore marketing – will be jubilant to hear that someone has written a program to allow you to use the programs in conjunction with a cassette recorder.

Priced very reasonably at £4.99 + 50p postage and packing, it can be ordered from Softworld, 59 Corporation Street, Corby, Northants.

Dodgy!!

It seems a little odd that IBM received a Queens Award for Export Achievement, when almost all of the equipment they produce is sent to IBM in other countries, but there you go. Nothing succeeds like excess...

Hardworks

Are a company based in Norfolk who have just announced two new products that ought to appeal to Commodore owners. The first is a 16K RAM cartridge with battery backup for the C64. For £41.00 you can have autostarting basic or machine code products.

Hardworks also have a T-Switch that allows you to plug two computers into one peripheral, allowing sharing. Priced at £24.50 it can work with the 64, 128, C16 and Plus/4, and is perfect for both disk drives and printers. For more details contact them on 0493-764040.

Real bargain basement

Would you like to buy a copy of Dbase III Plus for less than $30?, when the retail is well over $300! A Hayes compatible modem for a sixth of the price of the genuine article?

The only snag is that you have to fly to Hong Kong first! Certain shops in Hong Kong will produce a copy of almost anything (hardware as well as software) in a matter of minutes, and at a fraction of the cost.

It would, therefore, be feasible to justify the expensive flight, as long as you knew what you wanted!

Sticky Fingers?

Readers who spend lot of time at the police station will be pleased to hear that Fingermatrix Inc, a US company, has invented a new scanning device that can take fingerprints without the expected ink and paper.

Fingermatrix also produce a security system for entry that checks a fingerprint against one in memory, and will or will not allow entry accordingly.

Solve your RS232 problems

Anyone who has ever tried to set up a non standard RS232 connector will welcome the newest products from DN Computer Services. The first, Serial Master Cable, enables switching, stopping or rerouting of pins amazingly easily. As well as this product, DNCS are also releasing the Truedata Tracker. This allows you to monitor all the lines with positive and negativly lit LEDS.

Used in conjunction with each other they would save a great deal of time and money.

Freeware Galore

People who want to make the most of their computers will realise that Freeware, software that people write purely for fun, is a very valuable source of reference. A company in the US, called the National Public Domain Software Rental Centre (Phew!!!), has hundreds of disks for PC and 64 owners, all at a minimal cost!

For more details, contact them on (010) 1-619-759-7534.

Get The Legjob!

"This is Commodore country!" said the very senior official. "There is only one brand of computer here worth talking about!" He waved his hand expamsively at the crowds besieging the stands at Hungary's first ever Commodore Show. "This country is going to be computerised quickly and, believe me, it will be done with Commodore machines."

This rising Commodore trend was confirmed by our own experience. In CCI's recent International Feature (June 1986) we reported that if you went through the "Something to Declare" entrance at Budapest Airport, you would see queues of returning hungarians carrying Commodore kit. It is a story told to us by good authority but one, we thought that should be taken with a large pinch of Central European salt.

While waiting, on our arrival, at Budapest Airport, we took a stroll over to the exit of the "Something to Declare" point, our journalistic scepticism well out front. A business-like man hurried out and came striding toward us. Under his arm bulked a long, multicolour, immediately recognisable box. A 64 Music Expansion System, probably bought in the UK and brought in on our plane...

The Hungarian Commodore Show which we had come to see was arranged for ten days! And every day, we saw a constant flow of people - all ages and including a great many more girls than we have seen at other computer shows -all of them eager to sample the Commodore related goodies on offer.

The venue was a large, attractive pavillion-style building in the middle of one of Budapest's most agreeable open spaces; an equivalent of London's Hyde or New York's Central parks. At another building nearby there was a congress going on - a jamboree for the Young Communist League of Hungary. There did not seem anything very political about the gathering which appeared largely to be of continuous rock concerts and discos. The congresses were good-looking T shirt and jeans clad teenagers who weren't put off from their open air fun by rain or falling scenery.

The Leader

One day, the whole crowd of them came over to see what Commodore had to offer. Someone must have been impressed because a deputy Minister in the Hungarian Government paid a visit and the very next day, Hungary's leader for the last 30 years, Janos Kadar, was reported to be on his way.

By chance, we had gone to the Show that day. There were a few sunglassed, walkie-talkied heavies around. But unlike many other countries these days, the Leader seemed to require remarkably little close security protection. A rather lined and crumpled, tieless and tough-looking, Janos Kadar walked briskly through the Show followed by a small group of officials.

He appeared to be saying little but listening shrewdly. We heard later that he had been impressed and our host, who had accompanied Kadar on the tour as his guide and explained the complexities of the kit on show, was delighted. He told us that Kadar had fully appreciated the emphatic message that it was vitial that some of Hungary's relatively scarce hard currency should be spent on buying more Commodore everything. 15,000 more machines for a start... and disk drives and monitors and... well, everything that would make Hungary even more Commodore country.

It is certainly a country that provides a fascinating look back into the past. For it is today at the stage in computerisation that, say, the UK or west Germany were three or four years ago. But Hungarians are approaching their need to computerise from quite a different angle. It's not, as it was in the west a case of push the machines out into a mass market with big promotional campaigns to persuade the home market to buy huge numbers even if they will shove them into the cupboard after a few weeks and forget about them... No, the Hungarians have a different strategy. They believe the home market can be largely left to itself, like the man with the Music System he was bringing from the West. And due to their general lack of hard currency to spend - although while we were there is was announced that they had gone into surplus by some $1 billion - they simply couldn't supply a mass home market with foreign computers even if they wanted to.

Cheap imports

They have tried manufacturing computers in Hungary but they turned out to be too expensive and not sufficiently reliable. So they have based their strategy for national computerisation on restricted imports of cheap machines that they can adapt or develop and which will be initially almost entirely devoted to educational uses. They have gone for computers to learn on and from. Commodore computers.

The C16, yes the "games box", has been accepted as the standard for primary education; the Plus/4 for secondary, with the C64 going into the colleges and the university. They don't think they can have the luxury of the C128 and even largish businesses have only a choice of Commodore PC's or... Commodore PC's!

Nevertheless, as a very creative nation, Hungary is not prepared to be limited by financial resources. We met many computer development groups - largely software - who were actively engaged in creating new ways of exploiting every aspect of the Commodore range. In education, in business, in games and other homes uses, they are rapidly developing an interesting variety of products. These range from simple word processors for the C16 to learning games for the Plus/4, from small business applications on the 64 to networks on the PC.

All were demonstrated at the Show as were lots more peripherals and software. Of course there were crowds playing games too. Many Western 'games are written in Hungary like Ariolasoft's hit Golf Construction Set and Mirrorsoft's recent Spitfire Simulation success.

The whole show buzzed with enthusiasm not often seen these days among more blasé western users. The Hungarians, or those that we met, were extremely knowledgeable and keen to progress rapidly both commercially and technically. They are also very hard-working. Our main contact, Software Manager of a semi-state owned company, Ms Agnes, young, attractive and multi-lingual, never seemed to sleep... signing contracts at 12.30 a.m... word processing reports in the early hours of the morning... regarding Saturday and Sunday as useful extra working days... a veritable Hungarian dynamo!

CCI Hungarian

CCI was invited because it is regarded there as the most interesting and authoritative Commodore magazine. In fact, CCI is now, or a large part of it, to be published in Hungarian as a section of a magazine issued to all members of the new official Commodore Club there. With all the world to choose from. We take it as high compliment they selected CCI.

A souvenir we brought back was the T-shirt on sale at the Show. What do the rather strange words mean? Well, roughly speaking the words mean "You Get the Best with Commodore". Not a million miles from the message you find on CCI's very own T-shirts. Mildenboll Legjobbat! Or as we say in English *and* Hungarian now "Get the Best".

Mindenböl a legjobbat!
commodore

CCI View

Dear Reader,

There is only one thing you can predict about the world of Commodore... that it will always be unpredictable. This time last year the C128 was hailed as CBM's home computer future product... the time of the 64 was over...

The 128 has now sold over 600,000 worldwide and is steadily gaining software and hardware support as you can see from the reviews and advertisements in CCI.

CBM have now brought out not a cheaper 128 but a brand new machine. It looks like the 128, it feels like the 128 but is it a 128?Well? What is it? The Commodore 64C! The King is dead! Long live the King!

CCI, as usual, leads the newsgatherers of the world and even before its official launch at the Chicago CES, we were in pursuit of the rumoured machine, made contact with it and obtained an exclusive photo, the first of it in use in a European country.

We believe that the new machine, and the new disk drive and monitor that arrive with it, are so important and of such interest to you that we have held over to the next issue some of our major graphics feature to provide space for full coverage of the new Commodore range, including its exciting GEOS system. When will it be available generally, in particular here in the UK? In spite of reports to the contrary, we do not believe that Commodore will be foolish enough to delay until 1987. Would you go out and buy an old 64 now or wait for a new model?

Speaking of new models... I have to say that the cover of Zzap (now, they admit, universally called "The fluff covered lollipop") is their best yet.

You may not think that's a great recommendation but we're glad they've finally moved away from their "infant school comic" style. We all have to grow up sometime, painful though it may be.

Everyone at CCI likes the cover. Well, we should, shouldn't we? After all, it's a CCI idea they have used. As down there in Ludlow they're so short of ideas, perhaps we could run a CCI competition to help... Maybe they'd like a new name, too... Any suggestions?

Yours sincerely,

Antony Jacobson
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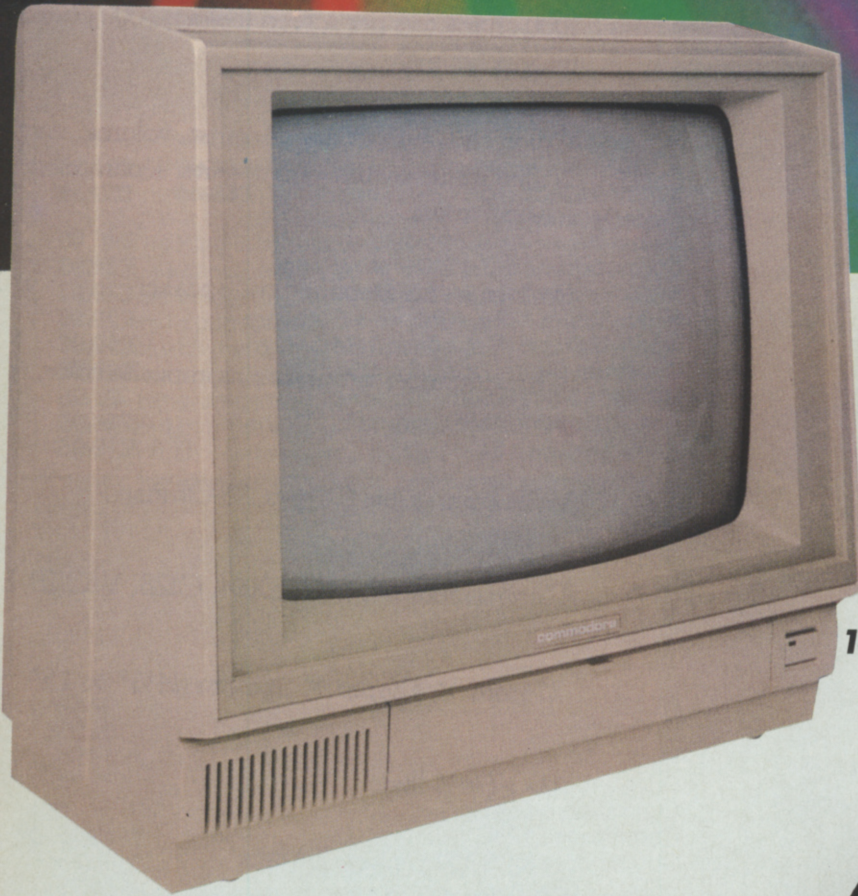


1802 Monitor

The 64

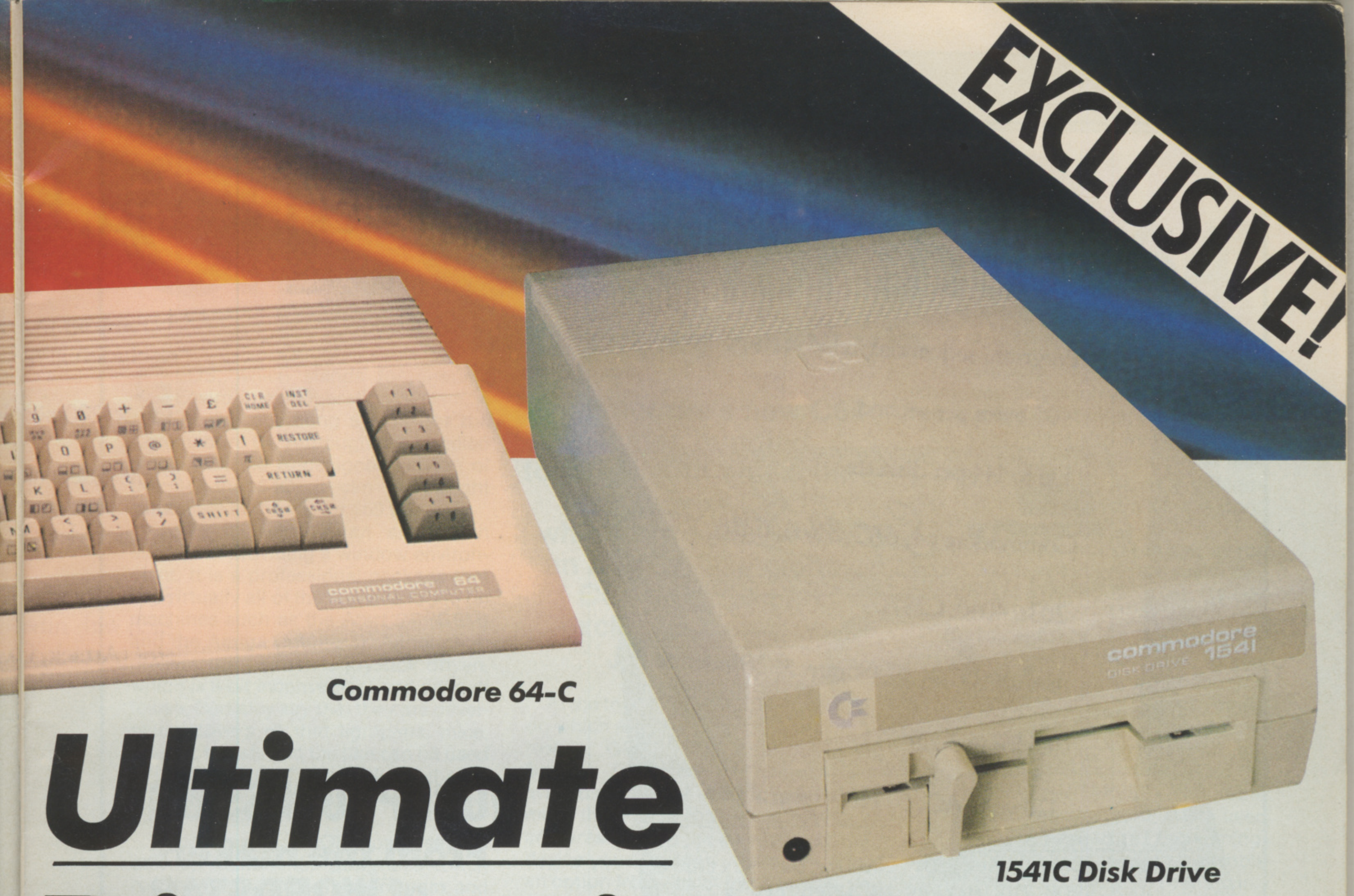
Is this the last, the very last, the ultimate 64? Commodore's relaunch of its famed top seller in sleek new 128 style case may well breathe new life into a machine that was already considered nearly dead. They have aimed the whole repacked range squarely at the new buyer who comes fresh to the scene.

It might just be a very smart move for the ailing computer giant. With the largest software base of any machine already there, buying on a tried and trusty machine with a brand new look, is certainly not a foolish thing to do. Especially as, in the U.S., where no doubt Commodore hope to make the really big bucks, it comes bundled not just with Geos alone but with a purpose built communication package – also on Geos, that gives direct entry to QuantumLink, Commodore's U.S. network.

Side by side with the new CBM64C comes the 154IC Disk Drive and the 1802 monitor. Specifications are virtually identical to their preceeding products but they too have been re-styled. They are without doubt, more-up-to-date in look and feel.

Geos (reviewed this issue) has got to be a great big plus. Not only does it give that extra boost now to the jazzy new 64 but Commodore expects independent software developers to design and adapt hundreds of new programs for Geos because all existing C64 computers can run Geos.

EXCLUSIVE!



Commodore 64-C

1541C Disk Drive

Ultimate Dimension?

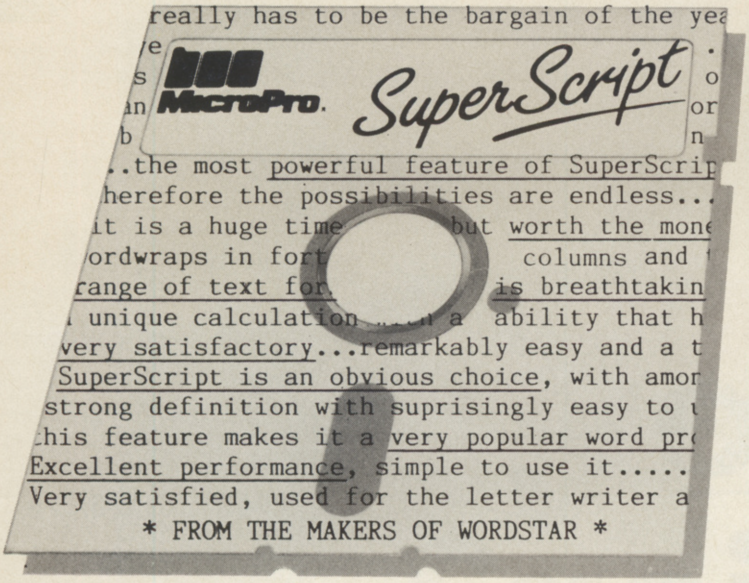
Commodore claims that its remodelled 64, its new operating system and the telecommunications software that comes with it will provide a 'total family computing solution' whatever that may mean.

They also claim they have 'redefined the home computer' Oh yeah? Those are big, big claims for a repackaged workhorse that's already penetrated in the region of 7 million living and bedrooms worldwide. Nonetheless, we all know that good looks move products off the store shelf and into the shopping basket. And the new 64C range certainly goes down as a looker. Makes one want to 'redefine' my own battered 64 right into the trash bin. Commodore they make life difficult even when they do it right.

Joe Gene Parris

CCI's exclusive photograph of the first new 64-C in use in Europe

WORDAHOLIC



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GEOS for the C64

by Berkeley Softworks

Commodore's new C64 comes bundled together with an exciting new system GEOS, which turns the 64 into an AMIGA-like clone. CCI gives you an exclusive view from Julian Rosen

GEOS, which stands for Graphic Environment Operating System, is a GEM like operating system for the Commodore 64. Although it is bundled along with the re-designed version of the 64, the 64C, it can be bought separately in the US for $59.99.

GEOS is not just an amateurish attempt at providing a window environment. It is a professional package that has virtually all of the features found on machines such as the Atari ST (GEM) and the Amiga (Intuition). Although at present the pointer is joystick driven, which is a bit inconvenient and difficult to use, Berkeley say that they are developing drivers so that lightpens, mice, graphic tablets and the like can be used as input devices. There is also in the US a mouse available that works with the joystick driver.

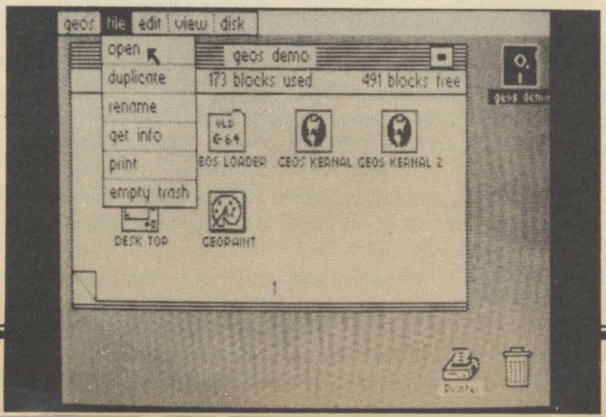
Bundled with GEOS come several desktop accessories (programs which run separately of the main program, and two quite powerful packages, GEOS-Write and GEOS-Paint. These will be tested in depth in next month's issue, but for the moment, suffice to say that they are easy to use, have some quite powerful features, and could easily pass as stand alone programs for sale in the shops.

The manual accompanying GEOS is quite comprehensive. It is easy to understand, and includes many screen shots to help illustrate what you are supposed to be doing.

I am assuming that you have at least an idea of what a window based OS looks like. GEOS is totally window and graphic based. Just like GEM, it has dialog boxes, error boxes, and system request boxes. It has a preference file, so that you can tailor the system to your own needs, which can be saved for later use, and also includes a telecomms package, Q-Link, which can be used to access Quantum-Link. Unfortunately, Quantum Link is a US based network, and so is of very little use internationally, unless you are prepared to dial the States!

At the top of the screen is a menu bar, on which are displayed the titles of five menus; GEOS, File, View, Disk and Special. To access the options made available in these menus, you simply move the pointer to the required menu, and press the button on whatever input device you are using. Again, to choose an option from one of these menus, you press the button. This may bring up a sub menu, which may bring up another menu, and so forth. Once you have finished with that option, all menus relating to it vanish, leaving what was underneath untouched.

On a normal 64, you have to type LOAD"$",8 to see the directory. In GEOS, the directory is displayed in the form of icons. To directory a disk, you simply click on the disk icon. To scratch a file, you click on the relevant icon twice, slowly, and drag it with the pointer to the waste-paper basket icon. The file is then promptly scratched! These icons can be user defined, so for example the GEOS-Paint icon is shown as a paint palette, and the alarm clock accessory as, believe it or not, an alarm clock! This is in fact more advanced than GEM on the Atari ST, which does not allow user-defined icons. Having UD icons makes life on the desktop (the display from which options and files are selected) much simpler, as you can see at a glance what you want to load instead of having to read each name in turn.



Alternatively, if you don't like the icons, you can display them as normal text, just like the standard 64 does.

Copying files is also well catered for. You can copy whole disks, single files, to either the same disk or a different disk, on the same drive or a second drive.

Non GEOS programs can also be run from GEOS, although obviously they cannot take advantage of GEOS' advanced facilities.

GEOS supports a wide variety of different printers including, of course, Epson. To tell GEOS what printer you have, you click on the Select Printer option from the GEOS menu on the menu bar. Then you can scroll through a large list of printers until you find the one you want. You can define this as the default printer driver, so that it is used every time you want to print something, without having to go through the whole printer selection routine all over again.

One disk command that is not included in the standard 64 is File Info. When you select this option, a list of information on the currently selected file is displayed. It tells you what type of file it is (eg system file), the class of the file (its name), the file structure (sequential or VLIR), the size of the file, the last time and date it was saved/modified, the name of the author (if selected), and the write protect status of the file. Files can be write protected, so that they cannot be overwritten or scratched accidentally.

GEOS is certainly a very good operating system, and since it is based on a 65K, 8-bit micro, is a remarkable achievement. Berkeley say that they will be supporting GEOS heavily, and are producing a programmer's reference guide for it to try to ensure that third parties will support it too. It deserves to become the standard OS on the 64, and I hope that programs are written for it in quantity. The UK price has not yet been announced, but I expect it will be the US price with a pound sign in front! Even at this price however it represents excellent value, compared with other window operating systems for other computers. Had I just seen the screen, and not the 64 in front of me, I would have thought that I was seeing a 68000 based machine running something similar to GEM. Software houses reading this, please get in touch with Commodore or Berkeley and get programing details. If you don't, you may be sorry!

Julian Rosen

(Next month a complete run-down on GEOS-Paint and GEOS-Write.)

Communications

Getting the Buzz (Part II)

Videotex

'What is Videotex?', is a question that, perhaps surprisingly, very few people have ever bothered to answer. In simple terms, Videotex is a means of storing, manipulating and retrieving computer held data, and conveying it over normal telephone line for display on screen. These screens can be special, i.e. dedicated monitors, or normal home computers with specially written software.

Perhaps the most famous videotex system is Prestel, British Telecom's own system. Videotex is, especially in the UK more commonly known as Viewdata, and it is that name which has gained such a large and loyal following, both with home users, and businessmen requiring specific information or services.

Currently there are two main types of videotex system: Public and Private.

Public

Prestel was the world's first operational videotex commercial public service. It now offers over 320,000 pages of information to its subscribers, as well as sections such as Micronet, easily available to home micro users.

Although Prestel-style systems revolve around on-screen displays, more and more people are using it to provide hardcopy, and downloading computer software. Over 1,200 organisations provide information to the Prestel computer, including such companies as Barclays Bank, Thomas Cook, The Stock Exchange and American Express. Using special editing terminals, information can be updated by these users, from their offices — along the telephone lines.

For business users, the advent of Prestel was a very important breakthrough. It meant that whether at home or the office, if there was a Prestel terminal nearby, they could be privy to all the latest information on anything from airline times to the current rate of exchange.

Perhaps the most exciting use of Prestel, and the one which brings the future nearer to your grasp, is teleshopping. This is a way in which people can order goods directly using their credit cards, without ever leaving the room! There are already areas of London served with teleshopping linked to a grocery delivery service.

For companies that require information to be viewed only by authorised users, Prestel can allow CUGs (Closed User Groups) for companies to use as their own. Access to these areas is strictly through a series of passwords, and they are almost un-'hackable'.

Another excellent feature of Prestel is the ability to use it as a 'Gateway' into other computers around the world. These systems are run completely independently of Prestel, and vary from universities to IPs (Information Providers) including organisations such as banks and mail order houses.

Bildschirmtext, the West German videotex service, which is based on the Prestel standard, has some big mail order houses that let you enter through the public system straight onto their private system on their own computers.

Private

Many of the services on videotex have no need of Public access, and therefore not surprisingly many companies have developed and installed Private systems for their own personal use. As with the larger Public systems, Private systems have software that enables them to build up a viewdatabase, exactly as on the Public systems.

Unlike Public systems, many Private ones use cables rather than telephone lines, especially if the terminals are all in very close proximity. Adding flexibility to Private services is the ability to access Prestel, simply by subscribing, giving users the added dimension of databases such as Citiservice.

Private systems are now well established in many fields, with big corporations such as the Volkswagen/Audi Group using it, and other companies in fields as dispersed as agriculture and the Stock Exchange also use Private videotex.

Software

Users of computers such as the PC have never had any real difficulty in obtaining software that allows them to access Prestel. However, until recently, the quality of software available for the Commodore 64 was very limited. Modem House — interviewed elsewhere in this issue — have their software, but apart from that there are only two well-known pieces of software, Mustang and Vidterm-64.

Mustang was written by Y2 software in Watford, and works very well, even allowing users of the Compunet modem to access Prestel with full Prestel Graphics. Vidterm-64 is an amazingly comprehensive piece of software written by an American Company — Videotex Systems Inc. Having used it extensively, I can say it has aall the features you would expect on a quality piece of software, and the downloading and saving of screens is particularly easy.

Keith Rose — Interview

Keith Rose, Managing Director of Modem House, has a lot to say about the modem industry in Europe, so CCI got him to talk

About Commodore:

"We have been going since July 1983, when we started to try and product low cost communications for all... Our record of success shows we have achieved this."

"We had a lot of difficulty to start with, due mainly to Commodore's Compunet modem, but gradually people needed more than that, and we have actually sold more interfaces than Commodore"

About the modem market:

"We have seen price drops, together with an increase of both users and information... Prestel only modems are no longer selling as well as multi standard modems... Our Voyager sells for under £80 with V21/V23, auto-dial auto answer as standard... It is called the Voyager as it can be used in any country's telephone system throughout the world"

About approval:

"Although the Voyager took six months to get approval in the UK, one European country approved it in three days!... Although four months of the delay was caused by unnecessary obstruction by our rivals."

What about the rest of the Commodore range?:

"Our 32k Mustang cartridge, as well as being the only software recommended by Prestel/Micronet, allows you to set up your own Bulletin Board — and this is a first for the UK... Our software can run on many of the Commodore machines, including the 64, SX64, 128, 128D, Pet and VIC, and we are developing it for the C16 and Plus/4."

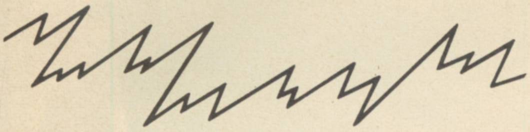
What do you feel about bulletin boards?:

"Although the numbers and quality are improving, there are still some boards which have no consistancy... We would like to see a UK group that sets standards and gives help... The TBBS network of boards are very good, as is the Gnome at Home — which shows how it should be done."

How would you describe Modem House?:

"We specialise in matched systems, and as such we can support over 800 computers... That together with the fact that our sofware is the best you can buy certainly helps! And by the way, we sell more Modems then all the others combined!"

Your key to communications!



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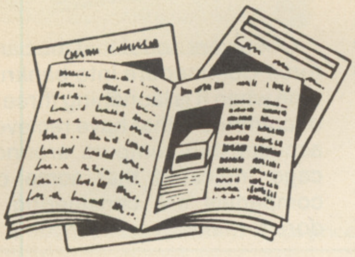

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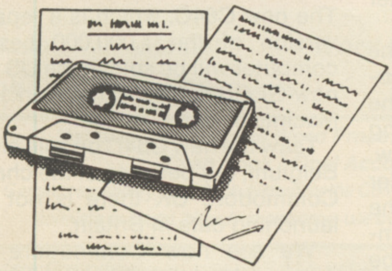

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The Chicago Summer Electronics Show

Special Report for CCI by Juan Holz, a world-renowned expert on Commodore and creator of 'The Very First' official tutor package bundled with the C128

The US CES Show takes place twice a year: Las Vegas (January) and Chicago (June). The Summer CES is the last show before the Christmas season and is THE meeting place for American retailers and distributors.

The stands are very large and elaborate, and the companies search for gimmicks to attract the public attention such as bringing Miss Universe, fancy cars and dance and karate shows. In one stand nice girls were giving shoulder massage just to show how friendly they were. (And how friendly were they?—Ed.)

Computers and software are just one section among the videos, telephones, stereos and satelite equipment.

The Amstrad, first time in the CES, went practically unnoticed. The public seemed very unimpressed by their products. They consider CP/M dead. One of the most interesting ideas on show was a video telephone that eliminated the need for high technology by confining itself to one photo every 30 seconds or so. This feature leaves the lines free for normal telephone use and gives you time to pick up a towel when the call catches you in the shower. If instead you are the calling and your party does not want to put on a towel there is a hard copy available. For the shy communicator there is the option to cancel the picture instead of putting the finger on the lens.

The talk of the Show was whether Sony and Philips will succeed with the new 8mm video system on the launch of the new JVC smallest video camera. I saw on the Bantam stand, at last, the most eagerly awaited 128 book — The 128 Programmers Reference Guide.

Struggling between all this excitement, I went to see Commodore only to find a small and sober display of C128s and the new C64C. About 8 or 9 systems in total and no Amigas at all on the stand.

I started asking around the reasons for such a reduced presentation. It appeared that Commodore was playing a unique version of musical chairs, or musical rooms. The firm had booked and paid for the space long ago, then decided not to exhibit. At the last minute it reversed its decision and reclaimed its space.

No Amiga

The Amiga's absence was explained by Commodore officials, as being on purpose in order not to detract attention from their new C64C. It was also argued that the Amiga is a business computer and not suitable for the CES show.

The software houses present at the CES were disappointed at the Commodore showing and compared it with the big presentatioin that Atari was making with more than 60 systems at the show. Jack Tramiel, former Commodore leader and now Atari's, was present at the stand all the time while none of Commodore's executives was there to be seen.

It looks like Commodore is too busy trying to absorb its own internal changes to bother with the game of gaining the market confidence.

Thomas J. Rattigan, former Pepsi-Cola executive was appointed President and chief operating officer in November succeeding Marshal F. Smith and Nigel Shepherd, former manager of Commodore Australia was appointed general manager of the North American division. They have to deal with $36.7 million loss in the third quarter ending March 31.

Commodore has reached an arrangement with its banks and has been given a $135 million line of credit, which will allow for the marketing of the C128 and the Amiga. The agreement runs to March 15th, 1987. Much of Commodore losses resulted from the closing of unprofitable operations, among them the UK plant at Corby. Sales during the same three-month period are reported to have been the second highest in Commodore's history.

Observers doubt that the banks would force Commodore into bankruptcy at a time when it is launching three new lines of computers that have recieved critical acclaim, but rumours around in Chicago indicated that some cash rich companies are considering Commodore for take-over.

C64C

The new C64C, which is a repackaged version of the 7,000,000 best-seller-computer will be sold in the US with the new GEOS software that works like the Macintosh or the Amiga.

I saw the new C64C on sale already in Belgium, but because of the changes in Commodore UK there is not a clear launching date in Britain.

We see now Commodore cutting costs as Atari did a couple of years ago when Jack Tramiel took over but being afraid of acting drastically, Commodore has paralysed its middle management with insecure working conditions. This is reflected in a lack of decision-making such as the one at the CES show.

It is very hard for any company to perform with employees preoccupied about finding new jobs. Commodore must first win its internal battle for employer loyalty, to be able to regain the retailer's confidence. In the meantime, we the programmers and users will keep supporting their good machines. Good luck Commodore.

After the CES I had the opportunity to visit several computer shops in the US and Canada, and I had lunch with Jim Butterfield and the Toronto TPUG members, also present was Rae West from England. The comment of the day was how healthy was the behaviour of the US retail shops in view of the new anti-piracy laws. It appears that retailers have learned that by discouraging piracy they remain profitable and in business.

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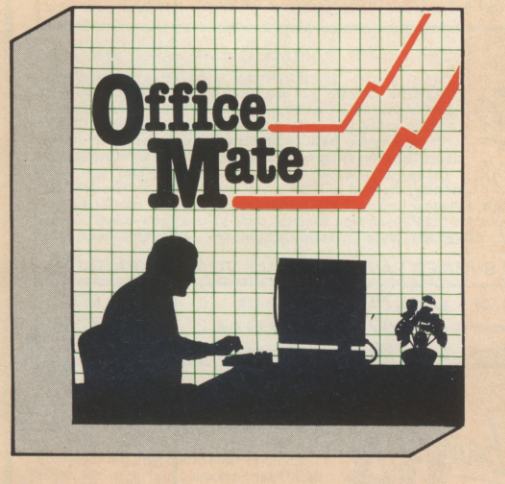

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Mailing List

This program will enable you to keep a record of names and addresses and then print, examine, sort and find them, all with special selection techniques. Featuring the famous Gemini 'search-key' system, you have the option of creating your own dedicated coding routines for each name on the file.

For example, on most mail systems you are only given the standard headings such as name, street, town, county, etc. but with our system, you could for example find all companies listed that have a turnover in excess of a certain figure, or all subscribers who are behind with their subscriptions, or all people eligible for a Christmas card this year! A full range of utilities is callable from the menu including, ofcourse, label printing.

Database

Superior file management system with features found only with packages costing much, much more. Completely user-definable data entry format - colours definable - advanced mathematics using built-in machine code expression evaluator - fast sort on numeric and string fields - extensive searching with 'wild card' capability - user-definable data summaries - simple on-screen editing. A really POWERFUL database!

Home Accounts

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General System Overview

The Gemini cash book package for the Commodore 64/128 microcomputer is designed for a hardware system consisting of:

1. Commodore 64/128 microcomputer.
2. 80 column printer.
3. Cassette or disk data storage.

Please note that running the program on disk will not change the way that the program works, but you will have the benefit of far greater speed and reliability for the loading and saving of files that a disk system provides.

There is a total of 199 nominal accounts, a large number of which may be defined by the user. You may have up to four cash control accounts, six bank control accounts, one sales ledger and one purchase ledger control account.

The program will store a data file consisting of:

1. The account titles.
2. The current cumulative balance on each account (debit or credit).
3. The net movement on each account for every month of the year.
4. VAT net sales and net payments figures, which are automatically created and maintained by the program.

This same data file is used by the FINAL ACCOUNTS program. The 'VAT FILE' which accompanies this package is designed primarily for those users on the Retailers special VAT schemes.

The main features of the CASH BOOK program are as follows:

1. Double entry routines for transactions through the cash/bank accounts and sales/purchase ledger control accounts.
2. Journal facility for the initial set up of accounts, or for adjustments to any of the accounts.
3. The facility to produce the following screened or printed reports:
   (a) Listing of all the nominal account titles.
   (b) Monthly transaction summaries.
   (c) A trial balance whenever required.
   (d) Screen VAT memo account balances (sales/net purchases, and VAT accounts).
   (e) A batch printing facility which provides details of all the transactions entered in the current run of the program.
4. The facility to extract regular management information such as cash/bank balances, debtors and creditors, sales, overheads, etc.
5. The program interfaces with the Gemini FINAL - ACCOUNTS program to enable Trading and Profit and Loss accounts and Balance Sheet to be produced whenever required. Comparative or budget figures can be shown alongside the actual figures using this program.
6. Screen prompts throughout the program to facilitate ease of use.
7. Storage of VAT information to assist in the preparation of periodic VAT returns.
8. Error trapping routines to minimise input errors.
9. The facility to handle the financial transactions of sole traders, partnerships, limited companies, clubs, etc.

Users registered for VAT are reminded that it is a statutory requirement to inform their local VAT office when they change their accounting records on to a new computerised accounting system.

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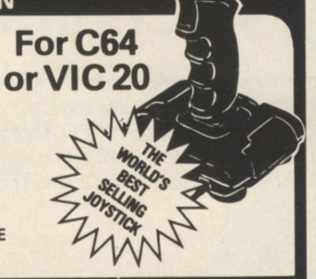

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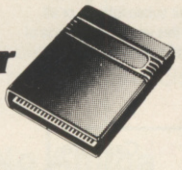

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Transform your **Commodore 64** into a full featured **professional** database system, with up to **1000** characters per record on up to **four screens**... and up to **128 items** per record, definable as **key, text, numeric, result** or **date**... in files of up to 16 million characters! **SuperBase 64** even has **calculator** and **calendar** functions, **easy input** from word processor or data files, both **menu-driven** and **program** control, **sorting** and **searching**, fully definable **report** and **screen** formats... **Superbase 64** is essential if you want the **most** from your 64! Supplied on 1541 disk with excellent tutorial and reference manual, plus **audio learning** tape...

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GRAPHICS

Is the C16 just a games machine? Can you really just shoot 'em up on the arcade front or will a computer with 16k (remember the days when 1k was enough?) let you venture out into a wider world? Julian Rose takes a look at what two interesting non-game packages for this popular computer can offer.

C16: Graphically Seen

Although the C16 has been on the market for some time now, it has seen little useful software. So far, the majority of its programs have been games. Here I'll be taking a look at two graphics utilities for the C16. Paintbox, from Audiogenic, is a graphics art program and Graphics Designer from Supersoft is a character set editor.

Paintbox is a very easy to use drawing program. Although some may say that it is unsophisticated, I think that for the type of person it is aimed at, the beginner, it is ideal.

The program can be used with either keyboard or joystick, although obviously a joystick makes life easier. To start drawing, you first have to select how you want to draw. You can draw freehand, in a variety of differently shaped brushes, or you can draw lines by telling the program the start and end points or the line. Circles, disc, boxes, and frames can be drawn with equal ease.

These options are displayed on what is known as a 'duckshoot'. A duckshoot is a bar at the bottom of the screen that highlights an option. To choose this option, you simply press fire. If you want to perform another action, you move the joystick left or right, which scrolls the duckshoot in the chosen direction, thus highlighting a different command. Once you have finished with the current option, you press the space-bar to return you to the duckshoot.

The colour option allows you to choose one of the 16 different colours, and LUM (luminance) lets you change the luminance of the selected colour.

Paintbox is ideal if you haven't really used a graphics package before, it is simple, has a large range of features, and allows you to save your masterpiece to tape or disc. It gives the user a good introduction to graphic art.

Graphics Designer is not a drawing program like Paintbox. Graphics Designer lets you edit the C16's character set, and save your amendments for later use in your own programs. It has many of the features of a drawing program, such as fill, which fills an enclosed area with the current colour, rotate, which rotates your design through 90 degrees, and a whole host of other features. You can use this program to design your own letters, perhaps a computer style font, or to design graphics for use in a game. You can build up a graphic by using more than one character. If you want a large graphic, you could build it up over four characters, each one containing a quarter of the picture.

This is a professional style package, not merely to be used by amateurs, but also by programmers.

It is very powerful, and contains features enough to be used to design graphics for a game.

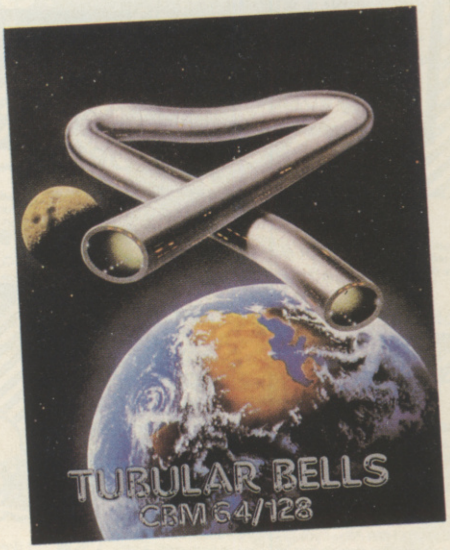
Paintbox C16 & Plus/4: Price £6
Contact Audiogenics
Graphics Designer C16: Price £6.95
Contact: Supersoft, Winchester House, Canning Rd, Wealdstone, Middx HA3 7SJ
Tel: 01-861 1166

'Tubular Bells'

A musical and visual experience is what its creators, CRL, call it. 'Totally baffling' is how it was described by another Commodore organ. It just shows how thick some people can be . . . It certainly is a musical and visual item of considerable, even hypnotic interest.

It isn't a game but a program from which you can select a series of options including Symmetry, Gap, Tail length, and a variety of colour modifications, and which gives you an ever changing kaleidoscopic screenful of moving, twisting, colourful forms. Sometimes they alter in time with the music, sometimes they run seemingly unrelated. The shapes they make are like wave forms, cones, combs, triangles, chinese fans, blocks, radar circles; in fact they follow, one on another so quickly that they have the odd effect of filling and fascinating the mind, yet leaving it without memory of what it has seen. It was, as we found at CCI's office, almost impossible to work while Tubular Bells was running. At first it seemed trivial but gradually we could realise its skills and feel its attractions.

There will be obvious comparisons with Jeff Minter's Colourspace. It isn't quite the same and it does have Mike Oldfield's haunting and equally hypnotic Tubular Bells music.



In answer to the question 'Would you buy it?' We must say, at first glance, possibly no, but watch for a while and you'll want to keep on and on, the music echoes in your mind as those mesmerising forms colour, shape and reshape, and colour themselves again. Baffling? Certainly not!! A musical and visual experience? Certainly yes!!

CBM 64/128
Price: £7.95
Contact: CRL, Kings Yard, London E15.

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Fast LOAD (now 5-7 times normal speed). Works with majority of protected software. Can be switched in and out from the keyboard.

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Fast Format takes just 20 seconds.

Fast Backup copies an entire disc in four minutes (not protected software).

Very Fast File Copier for selective file copying at HIGH speed. Now handles files up to **248 blocks** long.

Improved DOS commands (DOS 5.1) makes for easy use of the disc drive. eg. $(RETURN) will LOAD and display a directory without overwriting BASIC. SHIFT RUN/STOP will LOAD "0:*",8,1 etc. **Very, very useful.**

Incorporates Centronics printer software (user port) **with CBM graphics** capability (requires user port centronics cable).

A RESET switch is fitted. (We have found this to be "unstoppable", it even preserves the tape buffer).

NO MEMORY IS USED by this cartridge, it is totally "transparent" and uses special switching techniques.

"128" and 1570 compatible in '64 mode.

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"EVESHAM 3 MINUTE NIBBLER" is the **latest version** of the infamous "Evesham Nibbler" now boasting **even more power and speed. Will now copy even the most highly protected discs in 3-4 minutes.** Handles the latest types of disc protection **completely automatically.** At the time of going to press this program copied **virtually every disc program available for testing including the latest in games and business software.** (It even copies '128 format or discs in CPM mode on the '128).

"DUAL DRIVE NIBBLER" allows the use of two drives to make **even faster back-ups.** Incorporates device number change software so no hardware mods necessary.

"NOVA TRANSFER" will **transfer to disc** the latest Nova Load programs including **multi part loaders.** A very useful utility that also includes routines to transfer "Summer Games II" and "Beach-Head II" to disc.

"DISCO" will transfer standard speed load software to disc.

"TRANS QD" allows you to save a fast load system to your own discs.

"DOUBLE BACK UP" is a **very fast** two drive back up.

As well as these important newcomers all the old favourite utilities which have helped earn "Disector" such a large following are included. These include **Menu Maker (selective), Fast Format, Unscratch, Disc Monitor, Disc Orderly, Fast File Copy, Index, etc. etc.**

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All programs are CBM 128 and 1570/71 compatible in '64 mode.

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THE LAST WORD IN BACKUP TECHNOLOGY

"Freeze Frame" has enjoyed **incredible success** for the past few months. Sales both in the U.K. and abroad have been very good and **thousands of satisfied customers** are using them.

Continual development has enabled us to launch an **improved version** of the product that incorporates a few useful improvements **PLUS** it is **even more powerful.** At the time of going to press our **thorough testing could not find one single, memory resident, program that "Freeze Frame" could not handle.** (This includes **ALL** the latest software up to 4th May 1986).

OPERATING "FREEZE FRAME"

"Freeze frame" is simplicity itself to use. It is cartridge based so is simply plugged into the cartridge port. When the computer is switched on a message is displayed, pressing "RETURN" will clear the computer back to the normal start up screen. Software can now be loaded from tape or disc **completely as normal.** The latest version of "Freeze Frame" will, to the best of our knowledge, allow **ANY software** to load and run normally (unlike competitive products).

"Freeze Frame" can be brought into operation at any convenient point by pressing the button on it. You can then do one of three things:—

1. **Pressing "D" will save a working version of the program in memory to a formatted disc. This version will include a high speed reload.**
2. **Pressing "S" will do the same as "D" except that the reload will be at standard 1541 load speed. (Also suitable for U.S. spec. machines, 4040 drives, some fast load systems etc.)**
3. **Pressing "T" will save a working version of the program in memory to tape. This incorporates a high speed reload at approx. 2400 baud.**

THAT IS IT!!

ALL PROGRAMS SAVED WITH "FREEZE FRAME" CAN BE RELOADED INDEPENDANTLY OF THE UTILITY

WE ARE CONFIDENT THAT FREEZE FRAME IS THE MOST POWERFUL AND FLEXIBLE BACKUP SYSTEM IN THE WORLD.

Does any other utility offer all this?

TAPE TO DISC **DISC TO TAPE**
DISC TO DISC **DISC TO TAPE**

PLUS the added flexibility of being able to save at any stage and return to that position, because programs restart from the point where the button is pressed.

An awe inspiring success rate.

Customise programs by putting in POKEs for endless lives etc. and then save with those active.

Reload independant of the cartridge.

Available now.

"FREEZE FRAME" HAS NO SERIOUS COMPETITION.

COMPETITIVE PRODUCTS

A successful product always spawns imitators and "Freeze Frame" is certainly no exception. Fortunately for us, but perhaps not for the people who have purchased them, their main similarity seems to be in advertising style.

"The Final Cartridge" is a good product in many ways, **BUT** when it comes to making backups it is just not in the same class as "Freeze Frame". Another major drawback, not made clear by advertising is that saved programs can **ONLY be reloaded with the cartridge in situ.**

"UPC1" has its uses but in its current form **cannot be taken seriously** as competition for "Freeze Frame".

"ACTION REPLAY" has no tape save, puts 8 files on a disc save and contrary to their claims we have found many programs that it can't handle.

ONLY £39.95

Owners of earlier versions can return them and upgrade for £14.95

SERIOUS WARNING: THIS IS AN EXTREMELY POWERFUL PRODUCT AND IS STRICTLY FOR PERSONAL USE. DON'T COMPARE IT WITH ANY OTHER PRODUCT, NOTHING ELSE OFFERS THE POWER OF "FREEZE FRAME".

DOUBLER

The tape back up "device"

Doubler has been an **enormous success** and continues to sell very well. Why? Because it is the **best product of its type** on the market. Doubler uses a unique method that copies **all types of software** regardless of speed. It consists of **hardware and software**. The software is the key part as unlike other products of its type Doubler creates a **brand new machine copy**. It is very easy to use and very successful. In fact our tests **have proved** that this "device" can achieve **100% success**.

Requires access to two data recorders.

ONLY £12.95

Why settle for less—this is the best.

QUIET DRIVE STOPS

This package incorporates new drive stops for **two 1541s** that will **end for good** the dreaded "woodpecker". The fitting process is very easy and a test program is provided to check the fitment. Helps prevent future alignment problems and makes your drive purr with satisfaction.

ONLY £4.95

ODDS AND ENDS

STAR NL10C The best Commodore ready printer, many features including 120cps draft mode, 27cps near letter quality, tractor and friction feed with semi automatic single sheet feed, most functions front panel switch selectable but perhaps most importantly the **interface cartridge is replaceable.** So if you change to another make of computer you simply purchase a new interface to suit. **ONLY £269.00**

DISC NOTCHER Allows you to easily cut a second write protect notch in your discs so that you can use both sides. A very useful gadget. **ONLY £6.95**

AZIMATE 3000 Lets you realign the head of your data cassette quickly and easily. Supplied with suitable screwdriver. **ONLY £6.95**

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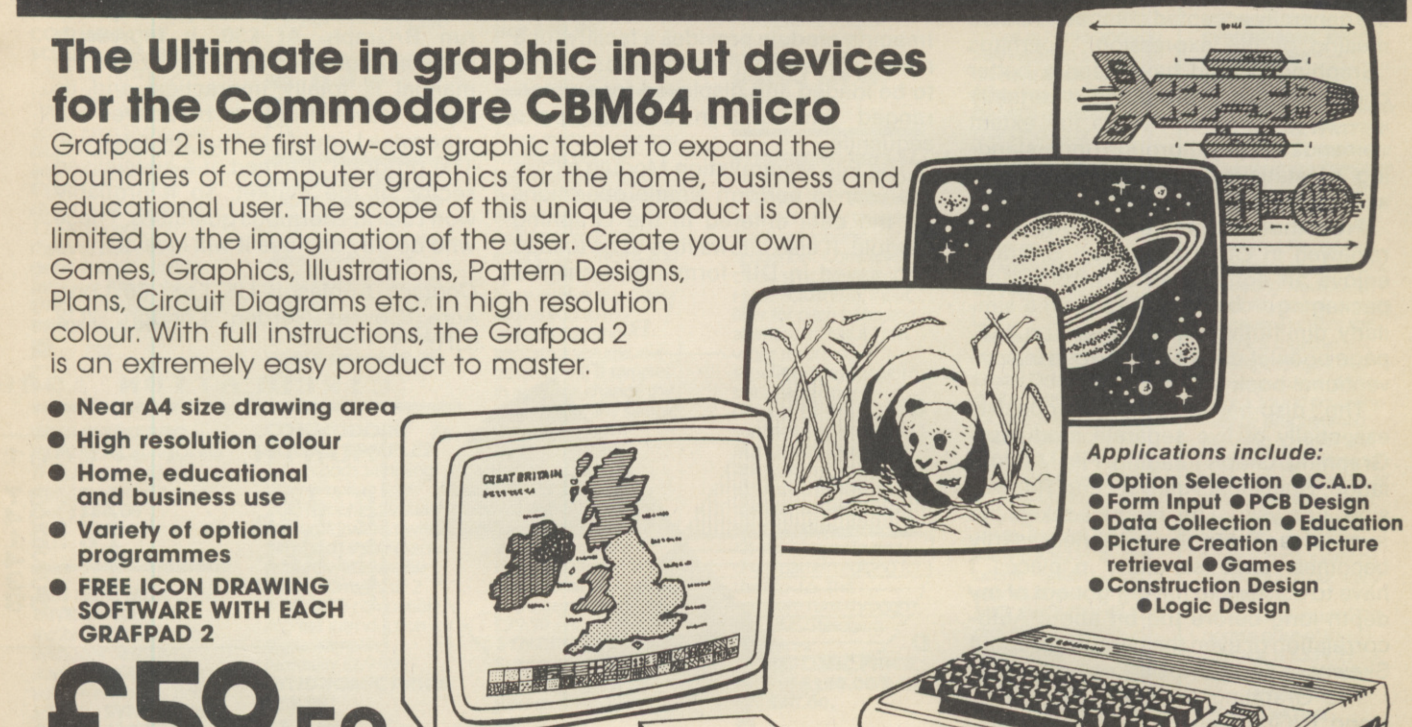

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B/Graph

The C64 is far from dead as a highly useful too in many areas especially business. Tony Lydeal tests Ariolasoft's excellent Professional series. This month he enthuses on B/Graph

I think it was Benjamin Disraeli - or it might have been Mark Twain - who made the rather disaparaging comment about "lies, damned lies and statistics". B/Graph is for those who disagree or for those who agree but would like to become better liars. The package can be used to process, manipulate, analyse and present a wide variety of statistical data.

Describing B/Graph as a "Professional Graphics and Statistical Analysis Package" is probably a little misleading, it is certainly not a graphics package in the generally accepted computer related meaing of the expression - perhaps "Graphing" would have been a better choice of word. Professional it certainly is - to use B/Graph to its full extent demands a pretty thorough understanding of statistics (or a willingness to acquire such an understanding).

From the same stable as CalKit, (to be reviewed in CCI September) B/Graph enjoys an equal level of professional packaging but suffers from a similarly diminutive manualette. The 110-page booklet does at least open in conventional book fashion.

The disc-based package consists essentially of five separate modules - Graphing, Graph Imaging, File Manipulation, Statistical Analysis and Regression Analysis. The manual takes the form of a Tutorial which necessarily becomes rather scholarly in places. I have to confess to having got out of my depth long before the bit about Autocorrelation or even the paragraph about Skewness and Kurtosis.

The Graphing module I did understand. B/Graph takes tables of information and presents them as graphs. A choice is offered between Scatter Graph, Line Graph, Area Graph, Bar Chart, Multiple Bar Chart, Component Bar Chart, Pie Chart or Market Graph. Depending on the suitability of the data, it is possible to switch between the different types to determine which form best illustrates the information.

Up to three different factors can be entered in the same file. Depending on which form of graph is selected, the different factors are displayed together or separately. For example, the circulation figures of three competitive magazines over a period of months could be compared and displayed in a number of different forms. Simply name your variables, type in the data, tell B/Graph what type of graph to draw and watch it appear before your very eyes.

The program automatically selects the scales for you unless you choose to alter them. While a graph is being displayed, press R to rescale. Other changes that can be made while the graph is onscreen include changing the colours, inserting horizontal and/or vertical grid lines, having a box drawn around the diagram and filling the area beneath line graphs.

Saving of information can be done in one of two ways.

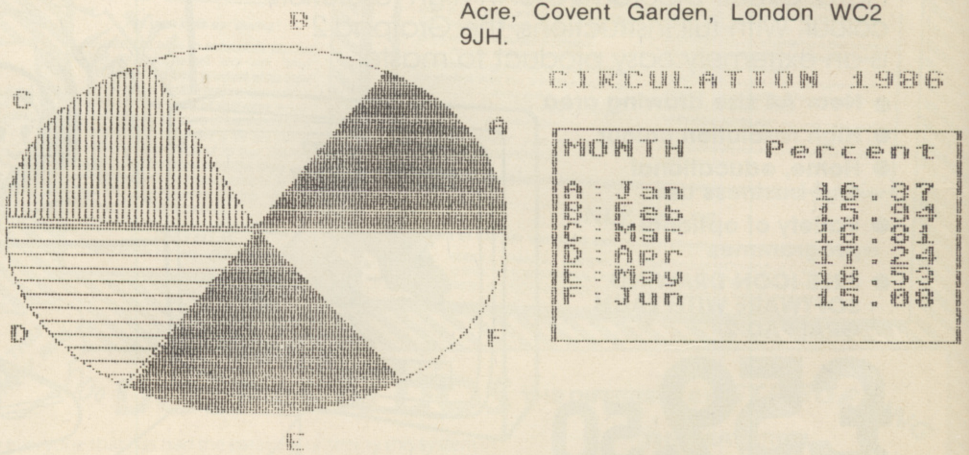
Either save the data and program parameters to enable B/Graph to redraw the graph on demand or save the actual screen image. The second method takes up a lot more disc space but enable a "slide show" to be prepared. The Imaging module provides a facility for a number of "slides" (i.e. prepared screens) to be loaded and displayed for a prearranged time and in a prearranged sequence.

The File Manipulation Module allows the user to perform simple operations on the data entered in the Graphing Module. It also allows files to be loaded and saved in DIF format and enables ASCII files created by other performs to be read by B/Graph. Techniques such as Exponential Smoothing, Moving Averages, Factor Rollover,Algebraic operations, the insertion of information from another file, combinations or different factors and deletion of factors are all available.

B/Graph includes a screen dump routine which enables any graph to be reproduced via a properly configured graphics printer (only through the serial port, though). Whatever combination of screen colours is in use, the printer dump always reverts to black on white without attempting to reproduce tones.

If you have a need (or desire) to display statistical information in graphical form, it might be worth buying a Commodore 64, disc drive and printer just to run B/Graph. At £30, it represents extremely good value. The size of the manual is totally impractical and its layout leaves a little to be desired but otherwise I could not fault the package. The program is aimed at a specialised sector of the market, so it probably won't sell in enormous quantities. Those who do buy and use it will love it!

Contact: Ariolasoft UK Ltd., 68 Long Acre, Covent Garden, London WC2 9JH.



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B : Feb	15.94
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D : Apr	17.24
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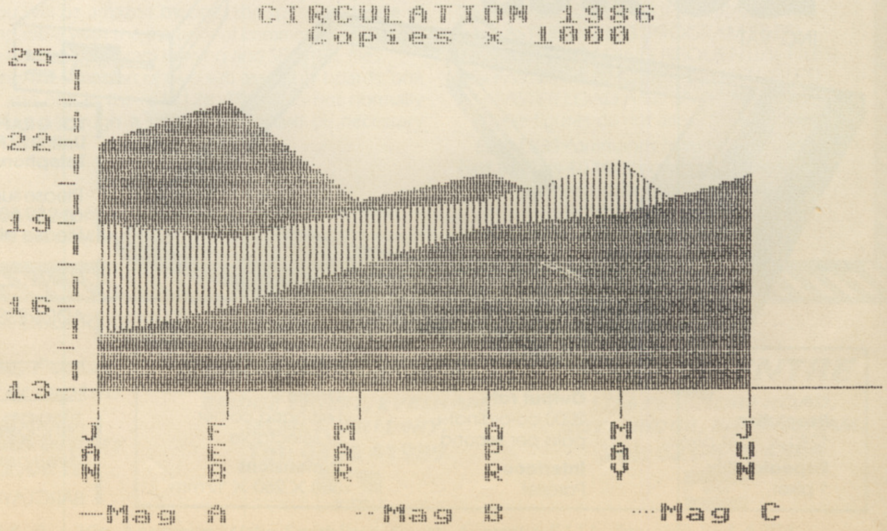

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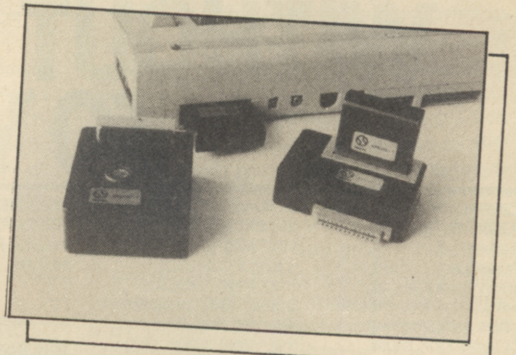

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ROMBO: The Amiga includes a vast library of software routines — so many it can be very hard to remember their exact names and the parameters they need. ROMBO is a KIM system loaded with most of the library routines cross-referenced by category, library and function. An invaluable programmer's aide-memoire.

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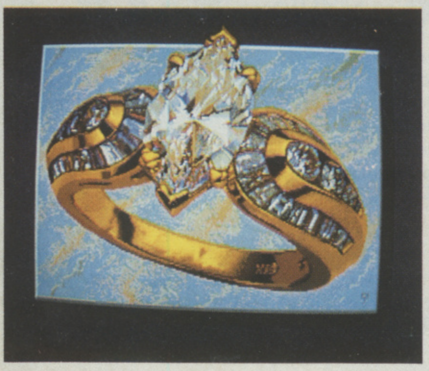


It's all very well the Amiga having a maximum graphics resolution of 640 x 400, and a palette of 4096 colours to choose from, and a procesor capable of incredibly fast animation — but where does that get the average user who, upon buying the machine can't program 68000 machine code?

Of course what the Amiga, and for that matter any new computer, needs is a base of quality software graphics in a specific yield where Commodore has projected a strong 'vertical' market. Currently, all the graphics and animation products are coming from America — understandably, they had the first machines — and companies such as Aegis and Electronic Arts are really starting to make the most of their position as developers at the forefront of Amiga technology.

The first graphics package for the Amiga was Commodore's own Graphicraft package. Described as 'an entry level art program' it showed the Amiga's potential well. Facilities such as magnifiy — either of a continuous area or a single point, and colour cycling — a means by which simple anmation is created, showed what could be done with the Amiga. But it also left Amiga users crying out for packages that really let their imaginations run wild.

It was a pretty close thing between Electronic Arts (EA from now on!) and Aegis as to who would be first to release which product and, as it turned out, EA were first with graphics and Aegis were first with animation.

Deluxe Paint — a legend in its own lunchtime! — is without doubt the most complete graphics package yet available on any mass sale computer. Its facilities are normally associated with dedicated graphics terminals, whose price, £10,000 and up, reflects their position. In basic terms, the Dpaint program disk has three different versions on it, Dpaint, Dpaint Med, and Dpaint Hi with resolutions of 320 x 200, 320 x 400, and 640 x 400 respectively. In the higher two resolutions, the colours are restricted, as is the workspace, by memory availability — even on a 512K machine.

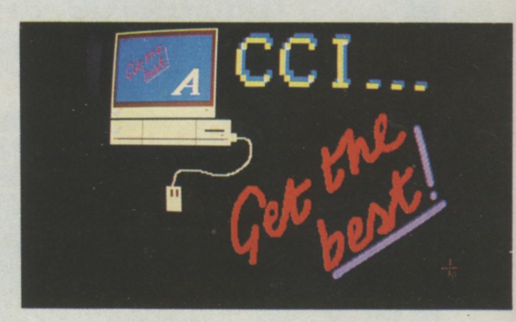
Using a mouse, all the options on Dpaint are available to the user, although after a while most people find it faster to use some of the keyboard options. Provided with the disk are eight or nine pictures, purely to show what the Amiga can really do. As well as the now obligatory 'KingTut', there is also an incredible 'Starflight' which using cycling colours can give a superb feel of animation.

For the average, not very artistic user, Dpaint is amazingly easy to get to grips with. At the top of the screen is a series of pull-down menus which control loading/saving, text and many other features. One of the best features of Dpaint is the ability completely to control the palette. Using a variety of options you can, in lo-res, actually get 32 shades of any colour, meaning B & W pictures with shaded greys have great potential.

Having set up the palette you require, you can then really get going! To draw with you can choose any colour, and a variety of brushes, having drawn something you can then pick it up and use it as a brush. I saw some draw a door on then use it to draw little multicoloured doors all over another picture.

Once you have a brush you can enlarge it, shrink it, rotate it, bend it, or shear it! Perhaps the best demo I have seen of Dpaint was when Tim Mott, Vice President of Development at EA, picked up the whole King Tut, bent it and then used it as a brush, drawing all over the screen!

A more simple application for this would be an easy way to get a multicoloured brush. It is possible to use a brush with 32 colours in it. Having decided upon what type of brush you require, you are then free to draw. Using such utilities as line, freehand, symmetry, curve, bend, box (filled and unfilled), circle, polygon, and eclipse, creating complicated, yet accurate drawings becomes unprecedentedly easy.



Another facility that immediately impresses is the comprehensive Zoom. Not only can you choose any area, but you can magnify the image to such a degree that each pixel covers about a tenth of the screen. Once you have picked an area to magnify, you can then ove around the screen using the cursor keys.

For more complicated artwork, the ability to spread, shade, and smear colours around the screen becomes invaluable — especially when you are trying to create a three dimensional feel to your image.

Overall, Dpaint is a very special product, it combines many original features with more standard ones, and comes up with an excellent package that truly takes advantage of the Amiga. If you own an Amiga, you just can't be without Dpaint.

AMIGA
AMIGA

One thing that Electronic Arts should be thanked for is the advent of IFF. IFF is a graphics format that means any pictures drawn on one package can automatically be loaded into another. For people who like to admire other people's work — and, of course with their permission — copy and use it, this is a real bonus, and shows excellent forward planning.

Perhaps the best known Amiga artist is Jim Sachs. His pictures of Porsches (see CCI July) as well as everything else, have amazed people all over the world. Aegis, the manufacturers of Images, have managed to get him under contract, and with every Images disk you receive three of four of his astonishingly executed pictures.

Although Images is a very good graphics package, but perhaps not quite up to Dpaint standard, what makes it so popular is that it comes free when you purchase Aegis' excellent animation package, Animator.

What Animator does is allow the average non-programming user the chance to create animations. Using IFF pictures (which can be created either on Images or Dpaint, or any graphics package), you can create a background, and then using a storyboard you can create some complex animations. Undoubtedly the best example of Animator I haveseen is a dream sequence by UK artist Hugh Riley, which was excellent!

Apart from Dpaint and Animator, there are a number of other products that should be released shortly. Draw is a comprehensve CAD program, again by Aegis, that will win many an architect over to the Amiga.

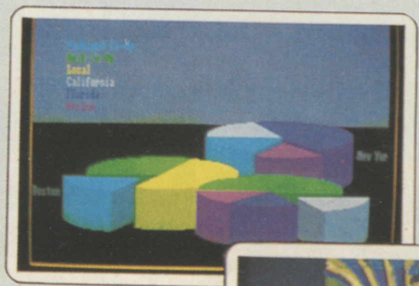
For an artist, the Amiga represents the ideal opportunity to express yourself. Everyone who sees the Amiga immediately has great faith in it, and it is obvious why. At under £2000, the Amiga is not something that is easy to justify, however, if you are an artist — it becomes a great deal easier! Its present graphics qualities are already obvious, its graphic potential is probably limited only by the imagination of the Amiga user. There are certainly many new Amiga graphics packages in the pipeline that will bring the kind of computer graphics magic that has become an integral part of movies and TV, within the reach of the smaller professional graphics organisation and even the home user.

COMMODORE SELLS FIRST 1,000 AMIGAS

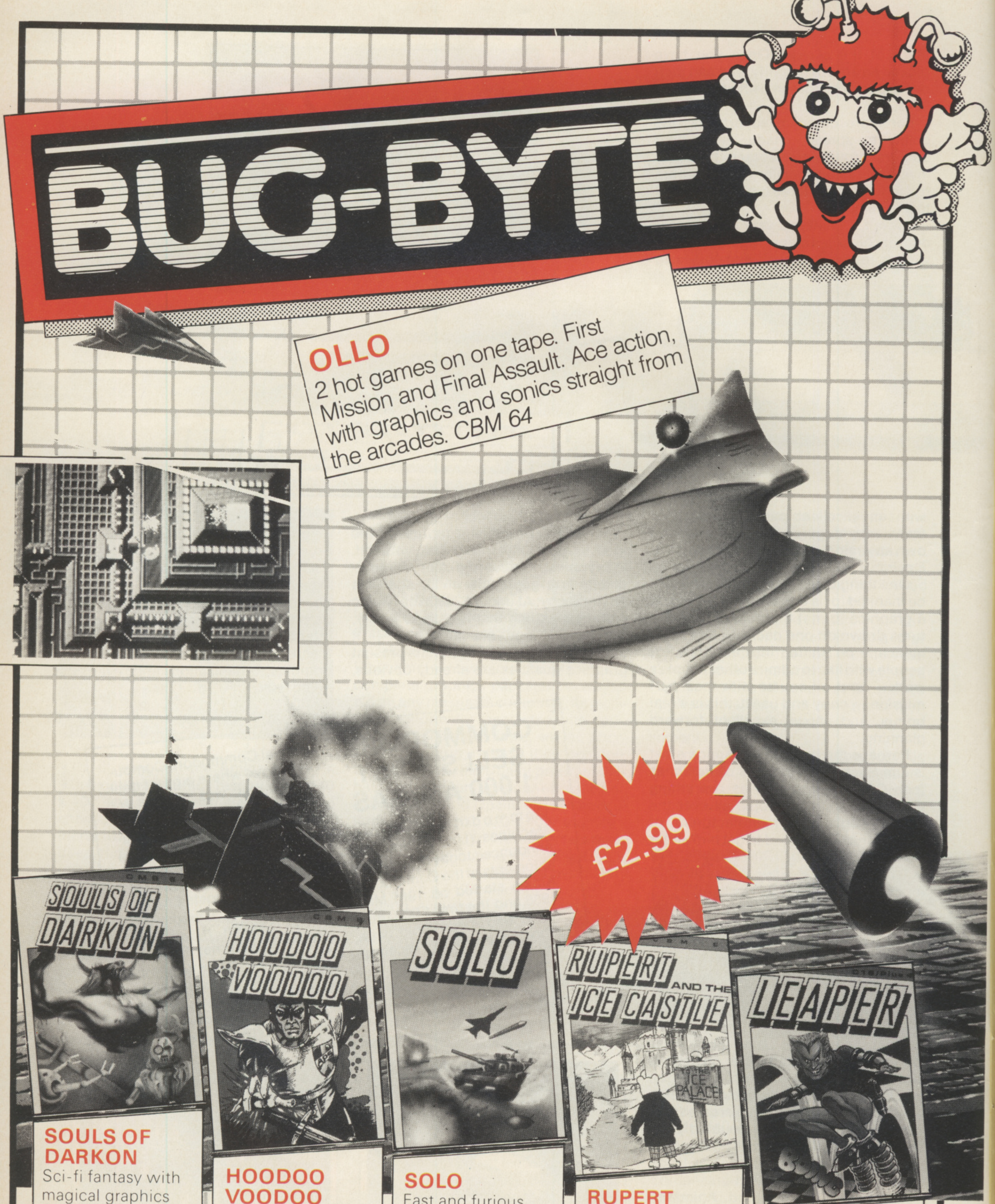
Commodore Business Machines (UK) Limited has announced today that volume shipments of the Commodore Amiga started on 19th May, 1986 and the first 1,000 units have also been sold with more orders being received daily.

This follows the highly successful launch of the Commodore Amiga at the 7th Official Commodore Computer Show, where a great deal of interest was shown by dealers and end-users alike.

Available in two configurations, the Commodore Amiga System I, with 512Kbytes of RAM and an integral 880Kbyte 3½ inch drive, costs £1,475 + VAT and the Commodore Amiga System II, with an additional external 3½ inch drive, costs £1,675 + VAT. Both configurations include a keyboard, mouse, colour monitor with sound, and Kickstart, Workbench and Amiga Tutor.



West
Midwest
East
South


BUG-BYTE
£2.99
SOULS OF DARKON
HOODOO VOODOO
SOLO
RUPERT AND THE ICE CASTLE
ICE PALACE
LEAPER

OLLO
2 hot games on one tape. First Mission and Final Assault. Ace action, with graphics and sonics straight from the arcades. CBM 64

SOULS OF DARKON
Sci-fi fantasy with magical graphics from beyond the sun of Crenal.

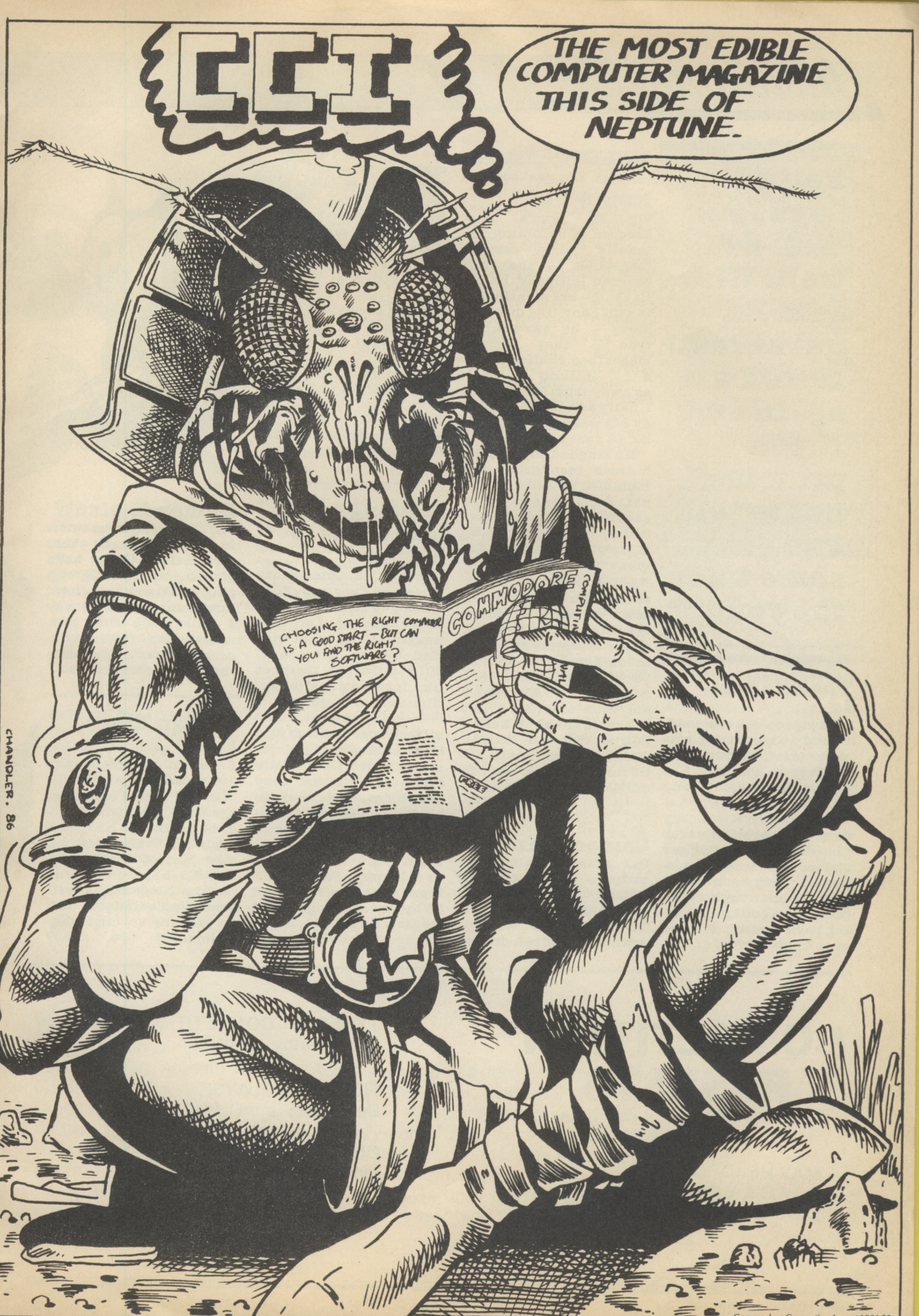
HOODOO VOODOO
Defeat the Bloopalgrop curse of Krellis IX. amazing graphics.

SOLO
Fast and furious action. The Batlegroms are coming . . .

RUPERT
Lots of slippery fun with Rupert's chums. 4* review C.C.I.

LEAPER
All action animation, 6 Gribblies, the last VW and great music.

Argus Press Software Group Liberty House 222 Regent Street London W1R 7DB **01-439 0666**
"Byte Me" bright yellow tee shirts are gr-gr-great — £3 (S/M/L).
Selected titles are available at W.H. Smiths and all good computer stores.


CCI
THE MOST EDIBLE COMPUTER MAGAZINE THIS SIDE OF NEPTUNE.
CHOOSING THE RIGHT COMPUTER IS A GOOD START — BUT CAN YOU FIND THE RIGHT SOFTWARE?
COMMODORE
COMPUTIN
FREE
CHANDLER. 86

Inside Info

Felix Says........ Well well well! Who said I'd never last! Here I am again and if you promise not to tell, I've got some tales for you!!

The Shadow is.....

Many people have mentioned to me that a certain gossip column in another magazine (The Shadow), is a completely unknown entity. I therefore thought it was my duty to reveal the true identity of these two gay blades. As we all suspected they are none other than.... argh eurgh (Felix has collapsed having been sorted). Will we ever know????

FELIX SAYS....

Kids Stuff

My Ed, who's been accused of becoming 'splenetic' when certain magazines – 'the fluff covered lollipops' he calls them – are mentioned, is still chortling over the story – he swears it's true – that certain magazines published not a million miles away from Ludlow are finally admitting that they are written not for but BY 12 year olds.

He laughed so much he became incoherent and mumbled something about it explaining why they couldn't even get the quotation "Tiger by the tail" right. What did he mean??

But I think he really seemed sorry for coming down so hard on "those appalling 12 year old comic makers" as he called them. I told him that at 23 it shows him he's really past it!! All right, I did wait until he'd left the room to say it. But he is 2 metres tall, weighs 200 kilos, eats rusty nails for breakfast, and his middle name is Attilla...

Cartoon Time

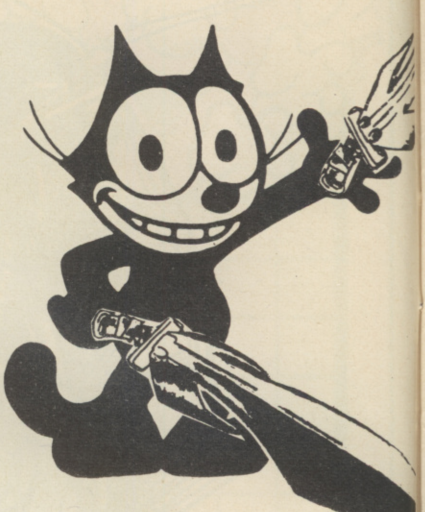
Our great new cartoon strip – Encyclopaedia Galactica is created by yet another CCI genius, Darren the Pen. Already acknowledged as one of the all time stand-out cartoonists of all time, the admiring folks back in Sudbury, UK, whence he hails are saving up to build a 60 metre high statue of his terrific character Galactic Duck. It's a pity that Darren's so old; yes the poor old boy can barely put pencil to paper. Well, you know, that's what happens to you at 17.

These days, five years older than 12 and you're practically senile. Contributions towards a bathchair for Darren the Pen gladly received!

Bending over backwards to please!

Another UK Commodore magazine (yes yes, Ed, I know you think they are only a figment of my sick imagination!) is so worried by the success of CCI's different features like international news, film reviews, etc that it is burning the midnight oil to dredge up some new ideas of its own.

Our tweet tweet little birdy tells us that they are so desperate that they are considering articles on knitting, croquet, speedway and gymnastics... You may look great in a leotard, SJ, but tell them not to do it, please! (Why not redesign your magazine again?!).



Demand

My little badges are now in such demand that many rivals have been phoning up literally begging to be written about. however there is no way I will stoop that low, unless the figure concerned is far larger than the one mentioned!!!!!

Design Disaster...

Redesign of the month award has to go to a certain rag which has managed to lose what few good points it had, and replaced them with really boring stuff, how sad! All their readers (or should I say both) will come immediatly to CCI, as we are so obviously superior!!!

COMPETITION RESULTS

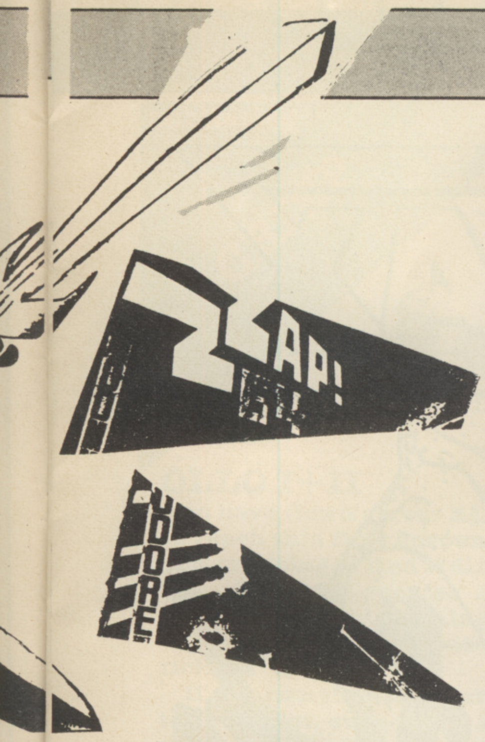
MAX HEADROOM
1st A Gill, V Darlington
2nd S Chapman, K Marfitt, M Pegg

TYNESOFT COMPETITION
C. McCarthy – Oldham

FISHER CD PLAYER
Ben Elman

CHEETAH JOYSTICKS
Mark Brennan

MUSIC EXPANSION SYSTEM
Paul Brown



FREE! £5 Psi Warrior Voucher
Amazing US Gold offer...
GREATEST BLAST EVER
ENTOMBED

World Cup

Rumours that US Gold have been refusing to give copies of their new World Cup game to magazines are without doubt nothing to do with the fact that the game is 'only' an updated version of another Football game, are they????

Soaps galore

In a recent story about the sale of Corby, Commodore's plant of a rival organ was heard to quote "Colby" rather than Corby. Perhaps they are watching a little too much television!! Or were they referring to an old Beston Brahmin friend of mine Colby Cernish Coombs, last heard of in Fiji.

(Cont. p.93)

Plus/4 Club

A new club for those desperate for software Plus/4 owners is being created. Based in the west of the UK, it offers, for a subscription of £6.50 a year a number of games, news, tips and tapes for the underated Commodore machine. Sounds like an excellent idea for the many Plus/4 owners who read, and write to, CCI.

Contact: G. Smith Plus/4 Club, 14, Beech Hill, Wellington, Somerset, TA21 8ER.

Bananas!

I have just received a phone call saying that someone had sent a banana to a certain lady in the home computer world with the message "Now wait for the gorilla". Funny as this might be, this was signed with my name, not so amusing – especially as I had nothing to do with this and am a cat, not a gorilla! Now if it had been a can of Whiskers – who knows?

Run the World

Having attempted to run the world, I would like to take this opportunity to ask everyone who has yet to give money, to do so as soon as possible, it doesn't matter how much, just do it! And is it true that Bob Geldof is to be the next Secretary General of the U.N.? If hurray! Or is it just a load of crap. Sir Geoffrey?

Let's be careful

As we saw in another, This time pink organ, using acronyms can be very dangerous! Dr Robert O'Neill, director of the International Institute for Strategic Studies, discovered last month. He was enthusing about the new computer system when he was heard to say.. "And the best thing about it is that it's ICBM-compatible".

This must be the first computer to be compatible with an Inter Continental Ballistic Missile!

Music maestro!

(This item to be read to the music of 'If I were a rich man...').

We hear that Mastertronic is to go 'public' on the Stock Exchange, certainly making its founders Frank Herman, Alan Sharam at al billionares. Shares will no doubt cost £1.99 each. And talking of money, Alan Sugar (that man again? Ed. How many badges for him??) has sold 5 million shares of Amstrad, netting him a cool, or maybe very hot, £26 million. Why is he selling off his own company? "None of your business!" was his reply. Does sweet Mr Sugar know something we don't, or are stories of lots of Amstrads being returned with bugs just nasty, nasty rumours??

That's all for this month Byeeeeeee ee! from the world's most famous cat, FELIX!

(And stop calling me Shirley!) Cont page 94.

Sweet for my sweet, Sugar for my.....

We hear that there has been a serious shortage of home computers for the first three months of the year. Alan Sugar, founder of Amstrad admits that they were 'Caught with their trousers down'. What a funny place to keep an Amstrad computer, or is it???

By the way, any offers for my old Speccy? Or my dad's Dragon? Or even my mum's Beeb? The first cheque received for one million pounds, dollars or pesetas or florints secures all three (what the hell is a florint???)

FLINTSTONES

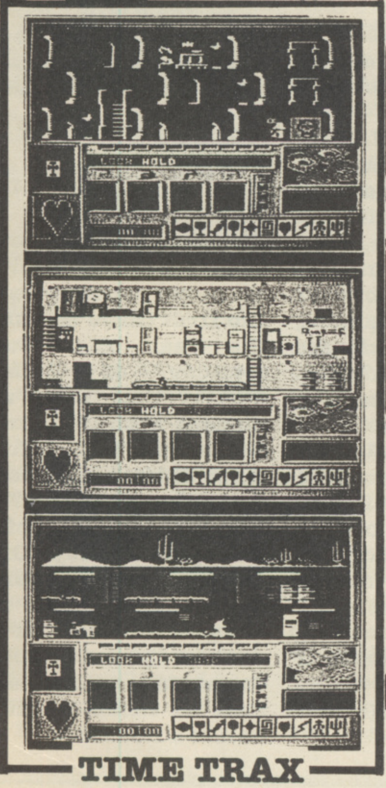
A copy of the game to:

Chris Garbutt, Antonio Termear, Adam Taylor, David Jewell, Claire Davey, Scott Conibeer, Zoe Raton, Lee Hooper, Georgina Lasbury, Lee Glover, Andrew Zenonos, Shabbir Ahmad, Ann-Christin Solem, Stuart Orme, Jane Patrick, Vincent Williams, John Kerby, Karen White, Phillip Archer, Michelle Slater, Nathan Jones, Adam Turrell, Sean Humphrey, David Davison, Terry Richard Bowles, John Tyrell, Glen Thompson, Jason Ian Major, Paul William Bolton, Peter Beech, Simon Todd, Mather Toogood, Ian Pyne, G Saxton, Kosten Metrewell, Carl Philpot, Paul Norman, David Alan Ashcroft, Helen Biskerton, Andre Gardner, Daniel Craib, Chris Haddock, Paul Blundell, Sverre Andre Grand, Zvi Silver, Olaf Jensen and Christian Specht Tyrone Morgan, Kelly Roche, David Connor, Michael Cutts.

CCI Rating

MEGA

TIME TRAX



TIME TRAX

Time Trax is a really easy arcade adventure, all you have to do is travel through time collecting the eight valuable objects that belonged to the eight minds of creation. If you manage this you will be able to repair the fabric of time, which had been used by the Dark Ones to disrupt history - and thus save the world.

Unfortunately there are rather a lot of baddies who would rather that you didn't succeed in this task! Time Trax is a graphical adventure all about cleverness and perseverance. Even finding your gun - without which you have no hope - requires not a little skill.

Set in 21 screens - around a wild variety of time zones - Time Trax manages to combine many of the best features of adventuring with an excellent storyline that will keep almost everyone glued to their joystix.

To do well at Time Trax is difficult, and generally your rating over the first few games will average out at BAD, however keep going - you will be rewarded.

Graphically Time Trax is excellent, with nice details and well defined characters, the music too adds greatly to the game. Overall Time Trax is a feast for anyone who likes to take his games seriously, it requires time to get into, and I imagine it will take months to complete, but the satisfaction should prove it all worth while.

Argus haven't produced that may games which I would put in my top fifty in fact I can't think of one - until now, Time Trax is their best game yet, and shows that even without Ultimate, other people can produce great arcade/adventures. If you are looking for a game that will provide long term value, as well as initial pleasure, Time Trax is for you.

Price: £9.95
Graphics: ****
Sound: ****
Playability: ****
CCI Rating: MEGA
Contact: Argus Press Software, 222 Regent Street, London W1R 7DB.

CCI Rating

CRISP

OLLO I+II

You have flown across light years to reach this first encounter, and you are going to find it difficult to win. You will require all your resources to achieve this goal, and a great deal of skill with a joystick!

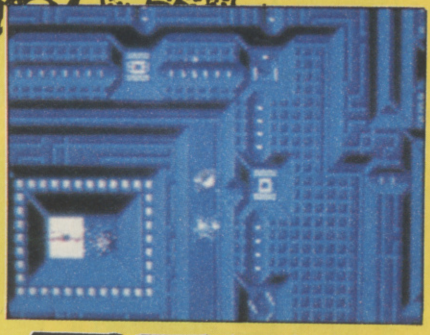
If you complete this battle (and to be honest, even if you don't!!!), you can try to destroy the complete Alien base – having first destroyed the overground laser implacements.

Ollo I+II are Bug-Byte's latest releases in the budget range, and as the build up would imply, they are basically shoot-em-ups, in the good pre 1983 sense of the word!

In Ollo I most of the game is set either over ground or, as in the later stages, in space. If you are practiced at the 'Z' type games of this world, then Ollo I+II will give you very little trouble.

Ollo II is really no more than a jazzed up version of it predecessor, with more 3-D overland views, and with more complicated gameplay.

For 2.99 these games represent good value for money, and for anyone feeling the need for a good blast they could be just the thing!



OLLO

Price: £2.99
Graphics: ***
Sound: ***
Playability: ***
CCI Rating: CRISP
Contact: Bug-Byte, 222 Regent Street, London W1R 7DB. Tel: 01-439 0666.

CCI Rating

CRISP

SOUTHERN BELLE

Hewson have taken a refreshingly different step in the field of computer simulations by writing Southern Belle, a 'King Arthur' type steam locomotive simulation.

You have to play the part of both Fireman and Driver taking the train from Victoria, London, to Brighton keeping to the timetable as much as possible, and using water & coal to maximum efficiency.

If you can imagine looking along the engine itself from the tender, that is the picture displayed on the screen. On the right, distance to destination is shown, along with the current gradient you are climbing or descending. On the left, the time, you speed, water and coal levels, and the signal status are displayed.

As you journey through the various stations en route, you have to stop to pick up passengers. You will also see various landmarks, such as Battersea power station flashing past in 3D line-drawn graphics. Although the scrolling isn't exactly smooth compared to games like Mercenary, it doesn't detract from the game.

Seven levels of play are available. These vary the difficulty of the run. The lowest level requires little skill. On the harder levels, you are required to take the utmost care to keep to the timetable, blow your whistle when you are supposed to, and stop at signals.

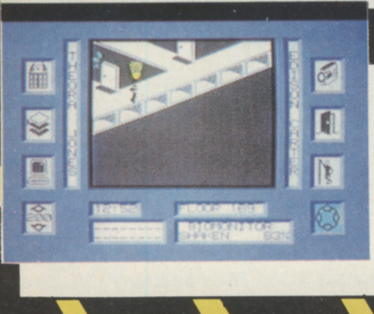
Southern Belle makes an interesting departure from the normal flight simulators. Although it is fairly slow moving, it is quite a challenge to try to run the train successfully, and certainly takes a long time to master. The instructions supplied with the game are extensive, and also include a brief rundown on how a steam locomotive works along with summary of the Victoria to Brighton line's history. A slow, but very interesting game.

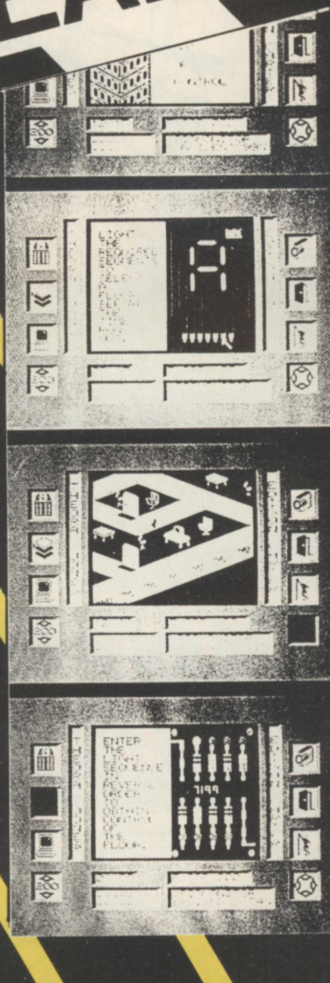
Price: £7.95
Graphics: ****
Sound: ***
Playability: ***
CCI Rating: CRISP

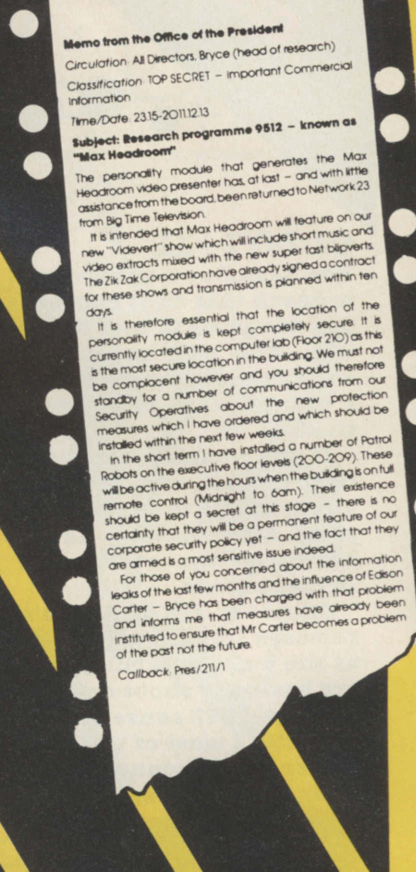
CCI Rating

CRISP

MAX HEADROOM







Memo from the Office of the President

Circulation: All Directors, Bryce (head of research)

Classification: TOP SECRET – important Commercial Information

Time/Date: 23.15-2011.12.13

Subject: Research programme 9512 – known as "Max Headroom"

The personality module that generates the Max Headroom video presenter has, at last – and with little assistance from the board, been returned to Network 23 from Big Time Television.

It is intended that Max Headroom will feature on our new "Videvert" show which will include short music and video extracts mixed with the new super fast blipverts. The Zik Zak Corporation have already signed a contract for these shows and transmission is planned within ten days.

It is therefore essential that the location of the personality module is kept completely secure. It is currently located in the computer lab (Floor 210) as this is the most secure location in the building. We must not be complacent however and you should therefore standby for a number of communications from our Security Operatives about the new protection measures which I have ordered and which should be installed within the next few weeks.

In the short term I have installed a number of Patrol Robots on the executive floor levels (200-209). These will be active during the hours when the building is on full remote control (Midnight to 6am). Their existence should be kept a secret at this stage – there is no certainty that they will be a permanent feature of our corporate security policy yet – and the fact that they are armed is a most sensitive issue indeed.

For those of you concerned about the information leaks of the last few months and the influence of Edison Carter – Bryce has been charged with that problem and informs me that measures have already been instituted to ensure that Mr Carter becomes a problem of the past not the future.

Callback: Pres/211/1

MAX HEADROOM

Finally, and after a wait worthy of Ocean, the Max Headroom Game from Quicksilva has arrived! The only problem is that most M-M-Max fans are fans of the television series, not the film, and they will be a little disappointed, especially having seen Bob Stevenson and Doug Hare's excellent five frame animation of Max!

Programed by Binary Vision, a company very well respected and who have produced some really excellent games, Max reflects this, looking and sounding very professional.

Well, as Edison Carter you are not a very liked man, in fact some people would rather you were not around any more, and will go quite far to ensure this. You control the Maxhunter module, and it is your mission to recover the Max module from the Network buildings.

The game starts with you having to choose a floor for the lift to travel to, before the timer runs out. If you are unsuccessful, the lift runs upward - out of control!

As with a great deal of games being released at moment, it requires very good icon-control, with the action taking place only in the centre of the screen. In the main, the Maxhunter module gives you advice and messages, most of the other icons control on-screen options such as 'Call Lift', 'Scan', 'Info', and 'Edit'.

Graphically, Max is O.K, but by no means special. Perhaps the nicest point is the angle at which you view the game, which gives a nice three dimensional feel, however the size of characters is just too reminiscent of a Speccy for any 64 owner!

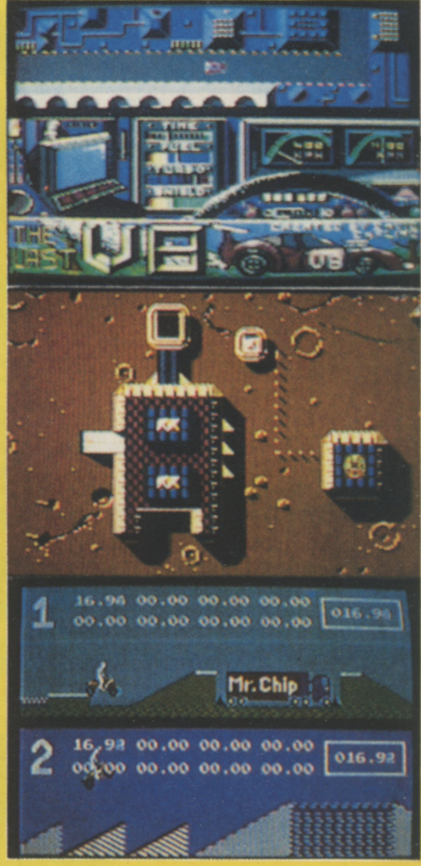
Quicksilva have obviously taken care to add good music, especially in a world where Rob Hubbard and Galway are producing such great tunes, and they have achieved their aim, both the music and the sound effects are first rate.

Max isn't the greatest game I've ever played, but it has a certain style that makes you want to play again and again. For people who aren't sure, try before you buy!

Price:	£9.95
Graphics:	***
Sound:	****
Playability:	***
CCI Rating:	CRISP

Contact: Quicksilva, Liberty House, 222 Regent Street, London W1R 7DB.

128
SPECIAL


THE LAST V8
1 16.94 00.00 00.00 00.00
00.00 00.00 00.00 00.00 016.94
Mr.Chip
2 16.92 00.00 00.00 00.00
00.00 00.00 00.00 00.00 016.92

The Last V8

This is one of the few games written to work on the C128 in its native 128 mode, and not just in C64 emulation mode. The results seem to be merely as achievable on a 64, so I'm not sure why they bothered.

The Last V8 from Mastertronic puts you behind the wheel of a rather powerful car. Radio transmissions have been received from Earth, where World War III was supposed to have killed all life. You, along with your other team members were on the Mars Mission when war broke out, and have been there ever since. As the best pilot, Captain Bortz (why do they always have these strange names?) sends you on a rescue mission, but before you journey to Earth, you have to drive around the Mars base collecting 15 fuel rods, turning off laser forces by driving over the blue points.

Control of the car is difficult and takes a while to get used to. To drive in a particular direction, you point the joystick in that way. To slow down, you pull in the opposite direction. It may sound easy, but it isn't!

Once you've collected the fuel rods, you drive to the centre of the launch pad, and travel to dead Earth. Here you have two minutes to get to the entrance of the Under City. If you hang about, you'll trigger auto missiles, so watch out!

When you get to the Under City, you have to make your way to the Sci Base at the far side, where you will find the survivors.

V8 features great sound by Rob Hubbard, a good title/loading screen, and some excellent digitised speech. The game graphics are very good too, and your instrument panel is highly detailed. A difficult but addictive game, and well worth buying.

Price:	£2-99
Graphics:	****
Sound:	*****
Playability:	***
CCI Rating:	**MEGA**

Kikstart

Kikstart from Mastertronic puts you in the driver's seat of off-road dirt bike. This game really had potential, but was let down to a certain extent by the bad sound effects, and the not so hot graphics.

After you've loaded the game, you can either go into training on the specially designed training courses, or start playing straight away. Once you have finished training, or don't wish to train, you can go on to playing the game proper. You use the numeric keypad to select one of three sets of eight courses, A, B, or C. Once you have started playing for real, you can't go re-load the training courses.

The various courses have six hazards. There are cars, vans, water, and buses that you must jump over. Rough ground such as tyres, hedges, barrels, ramps, sand pipes and gates are dangerous. You have to go over them with care or you'll end up in the mud. Spikes, if you land on them, will throw you off your bike. Spring boards will bounce you up if you don't land on them with the fire button held down. Steps and picnic tables have kindly been provided to wheelie up onto, and lastly there are the mystery boxes. These contain unknown hazards, and the only way to get safely across them is to wheelie, slowdown,or speed up!

The game does have a keyboard option, but the keys are so awkward I don't know why they bothered. It is much easier to play with a joystick.

Two people can play together, on a split screen, on one player can play against the computer. For once, the computer is not perfect. Even it goes flying over the handlebars sometimes! Small, but reasonable graphics, a very simple tune, and a 'just one more go' feel make it a great game to play, especially against another player.

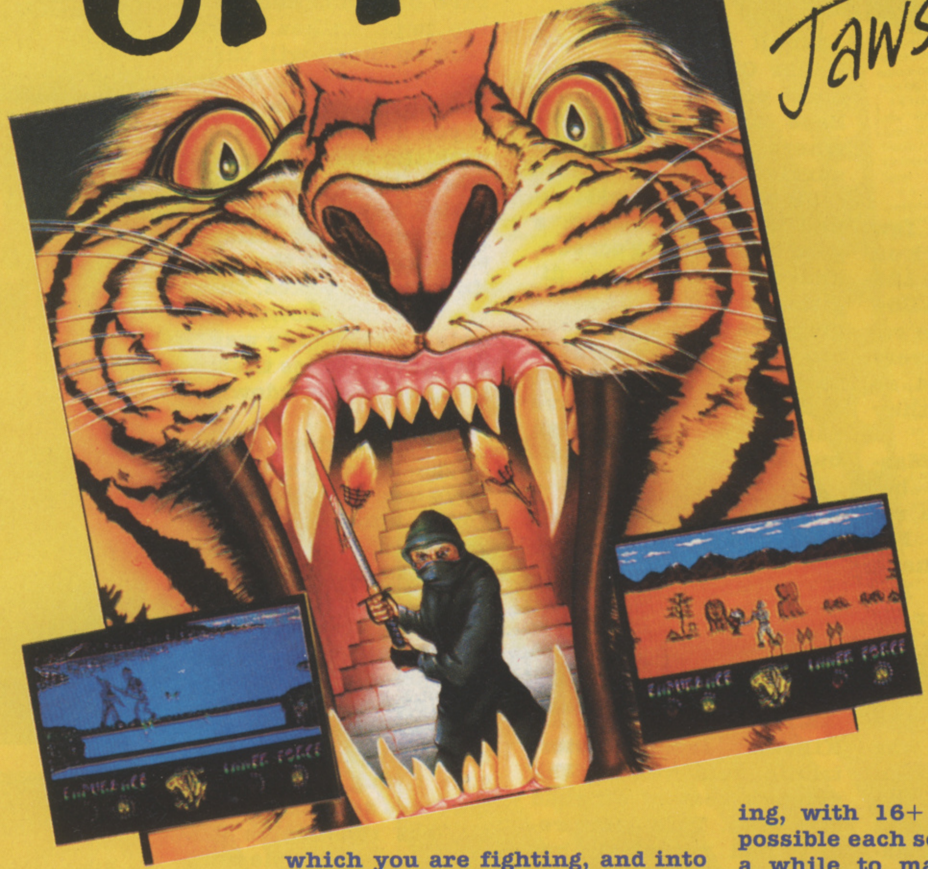
Price:	£2.99
Graphics:	***
Sound:	***
Playability:	****
CCI Rating:	**CRISP**

This is a dedicated 128 program and will not run on a Commodore 64
THE LAST V8
YAM
FTOOOM
I'VE GOT SECONDS TO GET THE HECK OUT OF HERE!
FEATURES VOICE SYNTHE
128
MASTERTRONIC
ICD 1281
This is a dedicated 1
and will not run on a Co
KIKSTA
Off-Road Sim
128
MASTERTRONIC

AWESOME

THE WAY OF THE TIGER

Jawsome!



WAY OF THE TIGER

The Way Of The Tiger is a conversion to the 64 of one of those oriental combat games that currently seem to be so popular. It has already topped the charts for other computers. I am sure that it will be a Mega hit again for the 64 because it has a terrific range of different fight ideas. So many, in fact that in the cassette version they couldn't get it all on one cassette and you get two for your money!

They is the usual piece of fiction at the start of the instructions which tells you that basically that you have been trained as a ninja, (Me? A ninja?) and have to prove yourself by undergoing a series of three tests; Unarmed Combat, Pole Fighting, and Samurai Sword Fighting. My favourite was the Pole Fighting, because it required the most skill. And you really do have to be skillful! If you make a bad move, you fall off the log on which you are fighting, and into the dangerous murky depths below! This does not happen to your opponent, as he is more surefooted than you. Isn't he always? Whoever said life on a computer game was fair?

Unarmed combat has you fighting a variety of very nasty nasties, other ninjas and grotesque little men armed with knives who try to hack the back of your necks amongst them! In this level, your enemies appear out of the blue, sometimes in the form of a rock! Have you ever been attacked by a rock that nobody has thrown. You will be in 'Tiger'!

Samurai Sword Fighting pitches you in a desperate battle against another sword-armed ninja, with some very good and realistic metal-on-metal sound effects included. In this, the hardest level, your opponents have some skills which you do not, so defeating them can be, to put it mildly, difficult! As is the case with all similar games, the number of controls you have to learn is daunting, with 16+ different actions possible each scenario. They take a while to master, but after a while come to you insticitively when you need them. And even I began to feel like a real ninja!

The garphics and animation of 'Tiger' really are something else! Absolutely 'three level' scrolling, (Three? It looked more like four to me. The best I've seen) and excellent animation certainly give 'Tiger' a real edge over other fighting games. This is a game that will take a long time to master, yet sustains your interest for longer than just a few hours. A definite must for any games afficionado. You can't call yourself a game player if you don't go the way of the Tiger. Awesome!

Price:	£9.95 Cassette £14.95 Disk
Graphics:	*****
Sound:	****
Playability:	*****
CCI Rating:	AWESOME!

CCI Rating

CRISP

"HOLD THE FRONT PAGE FOR SEABASE DELTA AND NEXUS" SAYS C.C.I. NEWSHOUND

MORNING EDITION

CITY EDITOR: C.C.EYE

REPORTED BY I.M. NEWSHOUND

SEABASE DELTA

Games about journalists seem to be flavour of the month. In Firebird's latest Silver (cheapo) range of games, Seabase Delta is a funny (ha-ha not peculiar) graphics adventure written, I suspect with Gilsoft's Quill.

It places you as Ed Lines, famous reporter, unfortunately stuck in Seabase Delta. To escape you must unravel a real web of intrigue, and then find your little submarine — easy?? You must be joking!

After waiting for it to load (time to make 3 cups of tea), the game commences, and you find yourself in a large tubular walkway. Through the transparent walls of the walkway you can see the ocean.

More fortunate however is that you can see a dead body. As you soon find out, this is the body of Major I. Ron Foil — Secret Agent. On his body you find a travel pass, and a telex saying that a missile is being aimed at the British base.

Your task involves some delicate adventuring, and some clever tricks. This is made a lot easier by the excellent sense of humour of the game (including a lovely "Clunk-Click or you're sure to be sick" message).

Overall this is an excellent adventure for anyone who enjoys them, but isn't a master. The graphics are good and the story excellent, especially at £1.99.

N.E.X.U.S

As everyone knows, being a journalist is a life of solid hard work, with little or no time for any fun or enjoyment!! In Nexus you play a reporter who must smash a drugs ring, end a drugs baron's rule, and get the exclusive - all in a days work! (at least on CCI!).

OUR INTREPID REPORTER

Packed in what must be the most dramatic box I've ever seen - a sort of plastic mettalix gizmo - which looks as if it has come straight from Joe 90's briefcase; Nexus is another of the games which has been hyped a great deal, whatever their press release says to the contrary.

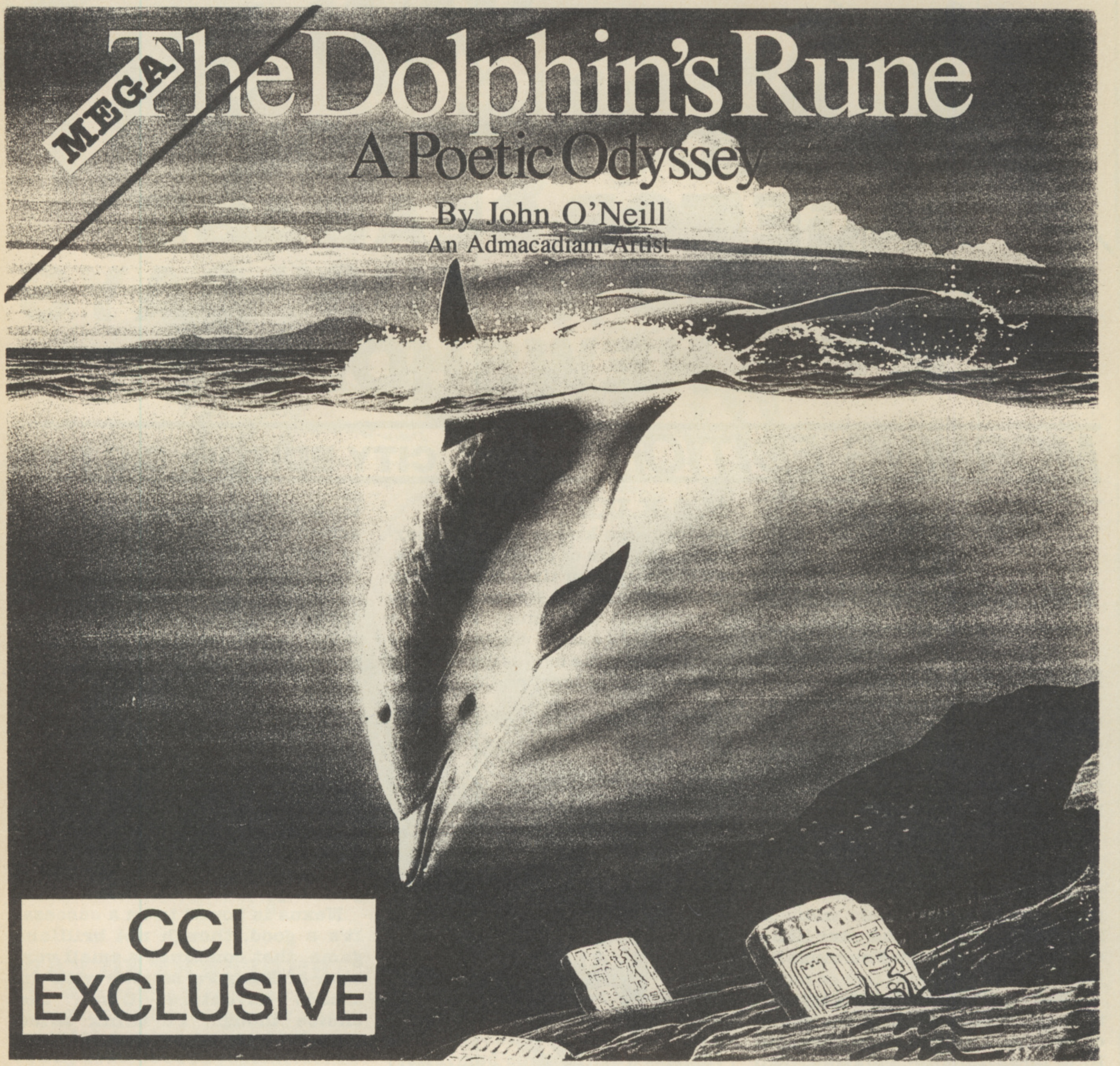
Having loaded the game, I must say I expected something a little more dramatic than a split screen arcade game, but there you go! The top 20% of the screen is where the action takes place, with a variety of small sprites (including you), travelling around the many layered playing area. The other areas of the screen include two small boxes, used for displaying some excellent, if reduced, digitised pictures. They are intended to give you clues as to whether the people you come into contact with are friends or not.

The centre of the screen is used to display what action your character will take if you use him aggressively. It shows all the angles of the joystick, and the various kick, punch, and shoot poses that you adopt.

Nexus is bound to be a success. It's a good, though not brilliant game, that combines a small version of Kung-Fu Master with an arcade adventure. Given the choice though, I'd think twice before buying it.

Price: £1.99
Graphics: ***
Sound: N/A
Playability: ****
CCI Rating: CRISP
Contact: Firebird, Wellington House, Upper St Martins Lane, London WC2H 9DL.

Price: £9.95
Graphics: **** (mainly the digi-pics)
Sound: ***
Playability: ***
CCI Rating: CRISP
Contact: Nexus Productions, DSB House, 30 The High Street, Beckenham, BR3 1AY.



THE DOLPHIN'S RUNE

Coming as pretty much a super exclusive to CCI is this game, recently rushed to us by Mindscape, a company based firmly in the US. Although the game is not currently available in the UK, I have no doubt that soon someone will contact Mindscape to organise an English distributor (Mirrorsoft are you listening?)

Described on the packaging as a 'Poetic Odyssey', it provides a new concept in games that involves you emotionally, as well as physically. The first section of the game starts with you controlling the dolphin's underwater movement - up, down, surface etc. You are swimming through the ocean, meeting and watching not only yourself, but a wide variety of other fish.

There are a variety of objects to watch, and you must remember that, to survive, dolphins need to breathe! Tuna nets, sharks and currents are all objects of which to be very wary of.

Once you have completed the first section you are swept out to sea, and your dolphin leaps dramatically into the air. As this happens you delve deep into the dolphins mind, and try to get some hints about the meaning of the Dolphin's Lore.

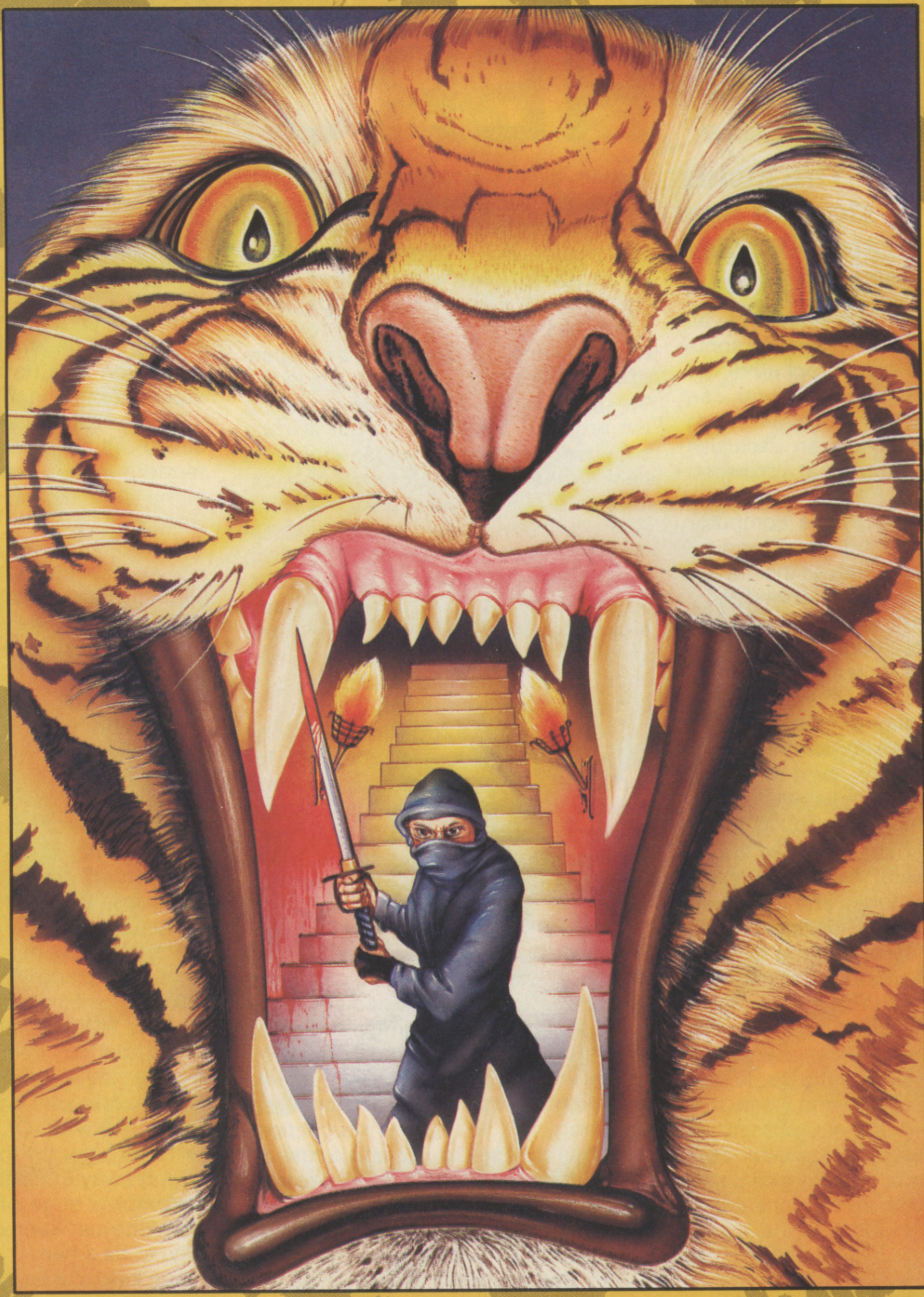
In the sea section, most of the game revolves around your ability to understand your signals, sent by high pitched squeals from different currents. When you are at the sea bed, you can set about trying to discover a Rune, and there by collecting the Hyroglyph.

To find the Rune you must touch everything, and that includes moving objects, until one lights up and the Hyroglyph falls out. When you have collected all nine Hyroglyphs, you are transported to a new world where life is all about experiences.

The Dolphin's Rune doesn't have graphics like Winter Games, nor sound like Commando, yet it requires thought and involvement, and to me they count for much more. It is absolutely original and fascinating and a delight to play.

RATING: **MEGA**

THE WAY OF THE TIGER



Enter the world of Avenger, a Ninja warrior of unparalleled skills and deadly powers, as he battles the forces of evil in defence of his faith and protection of the weak.

Be calm and stay silent as the outstanding animation and unrivalled combat routines take you to levels of action you'd never have thought possible.

Experience the stunning effects of triple scrolling action as you master the techniques of Hand to Hand combat, Pole Fighting and the skills of the Samuri Sword.

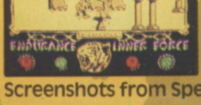
And when you believe you've succeeded in overcoming all the odds, the next in this thrilling series of adventures will beckon you forward to a further challenge of death.

Cassette £9.95

Disc £14.95

MSX 64K Spectrum 48K Amstrad CBM 64/128

Gremlin Graphics Software Limited, Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: 0742-753423



ENDURANCE
INNER FORCE

TRIPLE-SCROLL
TRIPLE-SCROLL
TRIPLE-SCROLL

ENDURANCE
INNER FORCE

ENDURANCE
INNER FORCE

Screenshots from Spectrum 48K

HERO?
DO YOU WANT TO BE A HERO?

HYPING UP THE HERO

The inside story of how Mega rated Biggles got off the ground

'You can fool some of the people all of the time or all of the people some of the time but you can't fool all of the people all of the time. And you can quote me!' said Abe Lincoln, Marketing Director of USA 1864 in an exclusive interview with our reporter at a crowded press conference...

Once upon a time in the computer industry — like 4 or 5 years ago — games hit the market with all the impact of a snowflake. Teenage or only slightly older programmers worked in debris-strewn bedrooms ('Paul, if you don't clear up your floor, I can't clean it) created a game that they and their friends wanted to play, got together with someone who knew something about printing and publicity, sent it off or maybe even took it to a distributor and then waited for the cash to roll in.

Ah, where are the snows of those innocent yesteryears? Ask any successful software house today and they'll tell you, melted away... The World Cup; Rambo; V; The Never Ending Story.-..Fame, as CCI pointed out some time ago is the Name of the Game.

And now Biggles is the latest into the linkage, the hook-up, the multiple market mix — the film, the album, the single, the book, the posters, the promo video, the scarves, the T-shirt, the stickers and in the case of Biggles, even the bear. The bear? Yes, there is even a Biggles bear, too! What it all adds up to is the campaign, the sales promotion, the hype. The megasmash.

'No hype!'

'No hype!' protests Pat Bitton , Marketing Manager of Mirrorsoft whose product Biggles is. 'Biggles is a great game. CCI gave it a Mega rating. We're just giving visibility... through all the sources available...'

Visibility Biggles has certainly got indeed. The film received a Royal premiere with Prince Charles and Princess Diana co-starring. Their sons, the two little princes — if they were in the tower, Biggles would rescue them — were given the first pair of the aforementioned Biggles bears. Neil Dixon, the strong jawed star of the film had the girls — and guys — queuing for a word or an autograph at personal appearances

Visibility allied to what Pat Bitton rightly points out is an excellent game — is that what makes a chart-topper today? It certainly helps. But it doesn't come about by accident. It has to be planned like a military-well, Biggles-style — operation.

It's taken nearly 18 months to get it together since Mirrorsoft heard whispers of a Biggles film. They quickly signed up the game rights and set about creating the product. They briefed four leading software development groups who came back to them with a storyboard — the idea in sketched form. Mirrorsoft selected the best ideas, especially those from Mr Micro and Dellaly — a team who had worked on their 1985 success, Spitfire, and selected three program groups to create separate parts of the game. By January 1986, they had enough to arrange a private screening of an early print of the film

There they had a stroke of luck. Tony Crowther, famed music composer for computer games was visiting someone else at a nearby office and came in. He was very impressed and offered to write the Biggles game music sound track. Mirrorsoft jumped at the offer.

Actiontime

This was the time when Steve Mercer, Mirrorsoft's Product Director and Jon Noredge, Product Development Manager were under increasing pressure to ensure that the programmers got their job finished on time. For now Pat Britton's tightly organised merchandising operating was swinging into action, crystalising in March '86 into a rash of dealer incentives like badges, posters, scarves, stickers, carrier bags. Even some of the famous old W. E. Johns Biggles books were to be re-issued.

With Bulletin 1000, the organisation which places videos in 500 computer shops around the country, Mirrorsoft created a 2 minute promo video which was shown at the Consumer Electronic Trade Show in London on April 23rd. Neil Dixon — Biggles — made the first of his personal appearances there. The national daily newspaper 'Today' did an interview. Then (surprise, surprise!) Mirrorsoft's parent company's own newspaper 'The Daily Mirror' joined in the promotion with 15,000 free tickets to the film linked to the computer game. The publicity began to work. Micropool a consortium of distributors in 11 European countries signed up to take the game, in four languages. Boots and Menzies, national chains of stores ran promotions, giving away stickers and posters. 100 other top retailers did window displays.

C Day

The 16th May, the day Biggles the C64 version was released was, Pat Bitton admits, a day of tension and waiting and hoping... The strain of organising the campaign took its toll as the mound of cigarette butts in the ashtray showed.

Biggles has got all the ingredients of a smash hit. CCI sources say the Commodore version was selling a 1000 a day in the UK in its first week. May 29th, the Spectrum version came out and the Amstrad 2 weeks later. We heard a whisper that the film company is already planning a sequel, a Biggles II, for 1987/8 to be filmed in Thailand. Pat Britton crushes out another cigarette and refuses to tell us if her next game and campaign are already being planned. But she did tell CCI the film will be on video release at the end of 1986.

The hype may have helped but we have to admit that Biggles is making it now because of its quality as a game.

By the way, if there is a slightly sour note about this report, it could be because in their efforts to bring together a top team for the Biggles campaign Mirrorsoft poached one of CCI's own team, production wiz, Jeannie Lawrence. Working for a magazine is crazy enough, why did she want to get involved with the 24 hour day dedication needed for a Biggles style promotional campaign really to take off? Was it the money? Or Robert Maxwell? Or did Mirrorsoft hype *her* into it? No, she told us straightfaced, waving away the glamorous assistant in Mirrorsoft's huge offices, it wasn't the hype. She just wanted, she said thoughtfully, to be a hero...

As a kind of transfer fee for one of our best CCI persons, we have twisted Mirrorsoft's arm into giving us a Biggles bear, a Biggles album, Biggles books, Biggles scarves and posters and stickers and signed photos of Neil Dixon — the star of the Biggles film. All the armoury of a successful campaign to create a megahit. And it all can be yours... all you have to do is...

BIGGLES

"Do you want to be a hero?' is the slogan for the Biggles I game. Tell us your slogan for the next Biggles film or game. Best slogan (not more than eight words) wins the Biggles kit (scarf, books, poster etc) plus the Biggles Bear and Album. Next 10 win Biggles kit plus cassette with Biggles soundtrack and CCI's very own song. Come on, be a hero!

DO YOU WANT TO BE A HERO?
Biggles

The result of unique co-operation between three ace software developers and the Biggles film production company, Biggles – The Untold Story will knock you right out of the air! It's a multi-part arcade strategy game in which each part must be completed to reach your final goal.

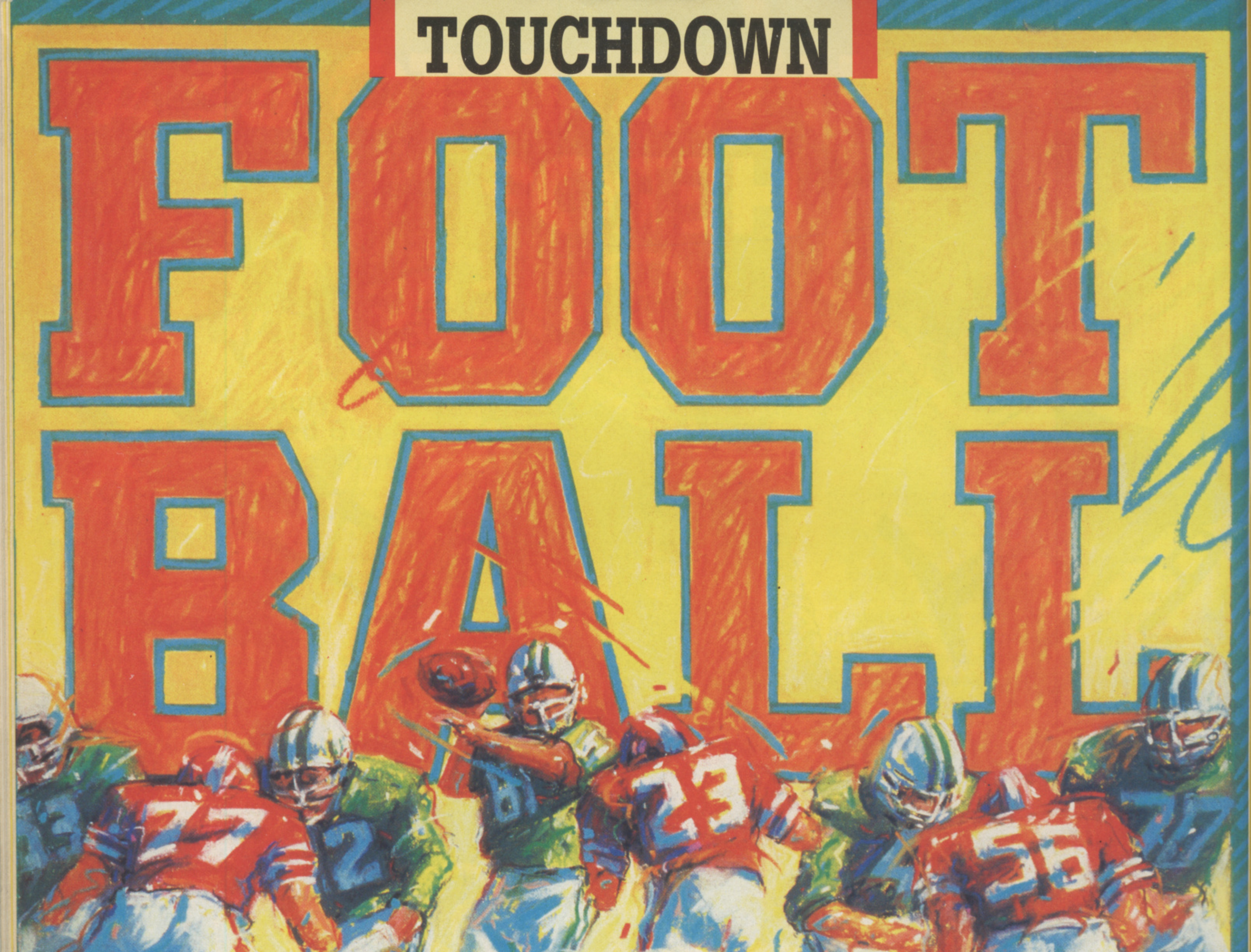
In the air, on the rooftops, on the ground, or in the trenches

YOU CAN BE A HERO!

Coming in May	Commodore 64 Spectrum 48K	£9.95 tape, £12.95 disk £9.95 tape
Coming in June	Amstrad CPC	£9.95 tape, £14.95 disk

MIRRORSOFT

Purnell Book Centre, Paulton, Bristol BS18 5LQ


TOUCHDOWN
FOOT
BALL
OUT NOW
ON C64
CASSETTE OR DISK
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KICK OFF NOW!

WITH THIS REALISTIC, 3-D ANIMATION AMERICAN FOOTBALL GAME

DON'T BE 'BOWLED' OVER BY FEEBLE IMITATIONS!

PUT HAIRS ON YOUR CHEST AND KICK SAND IN BULLIES FACES

WITH

TOUCHDOWN FOOTBALL

Available from all good software retailers – If it's not there, please order it – or in case of difficulty send your crossed cheque/ P.O. made out to **Ariolasoft U.K. Ltd.**, including your own name and address, to **Ariolasoft**, P.O. Box 461, London NW1 2ND.

Touchdown Football C64 Disk **£14.95**
Cassette **£9.95**

ARIOLASOFT

SHOGUN

CCI Rating
NAFF

SHOGUN

Virgin games haven't got the greatest reputation in the world as far as high quality games go. Their last title, FA Cup Football was, to say the least, disappointing!

With Shogun, Virgin hope to change all that. I must first say that James Clavell's novel can hardly be regarded as the most suitable storyline for a computer game, being a massive book based mainly on the intricacies of Japanese life!! Set in 17th century Japan, you have the choice of either playing John Blackthorne (Anjinsan to his pals) or one of thirty other characters, varying from peasants to Samurai.

The object of this game is to become a Shogun, and thereby aquiring a certain amount of followers. Graphically Shogun is pretty, though by no means special, the sprites are small and not very well defined; the best graphics are saved for the bottom line of icons, with which you choose options such as pick up, drop, give, befriend, or kill.

Nor is the sound anything to write home about, being slow and not very atmospheric. In a market where Rob Hubbard is starting to be viewed as passé, this tune is dire.

Overall, not a game I would recommend to anyone, bar totally nutty James Clavell fans, who have already watched the awful series 17 times, and bought autographed copies of the book!!!

Price: £7.95
Graphics: ***
Sound: **
Playability: **
CCI Rating: NAFF
Contact: Virgin Games, 2-4 Vernon Yard, 119 Portobello Road, London W11 2DX. Tel: 01-727 8070.

CCI Rating
NAFF
CAVERNS OF ERIBAN

THE CAVERNS OF ERIBAN

Hot on the heels of Thrust, Firebird's awesome 1.99 game, come caverns of Eriban. In it you control a Scramble type ship which you must guide around a variety of caves, blowing up a great deal of underground baddies, and delivering vital supplies to mining depots.

Once you have successfully supplied five mining depots, you must return to the surface to collect more supplies. Upon loading, you are greeted with a screen depicting the game which, although not up to Bob's Thrust screen, is O.K, and then you are thrown into the game!

Graphically it is very reminiscent of early arcade-type games. The space ship is small, all one colour and jerkily animated, and the explosions are, at best, unimaginative.

Having seen Thrust, almost any other 1.99 game seems bad, and this is something Firebird will have to face. If you are looking for a budget game, look a little further.

Price: £1.99
Graphics: **
Sound: **
Playability: **
CCI Rating: NAFF
Contact: Firebird, Wellington House, Upper St Martins Lane, London WC2H 9DL.

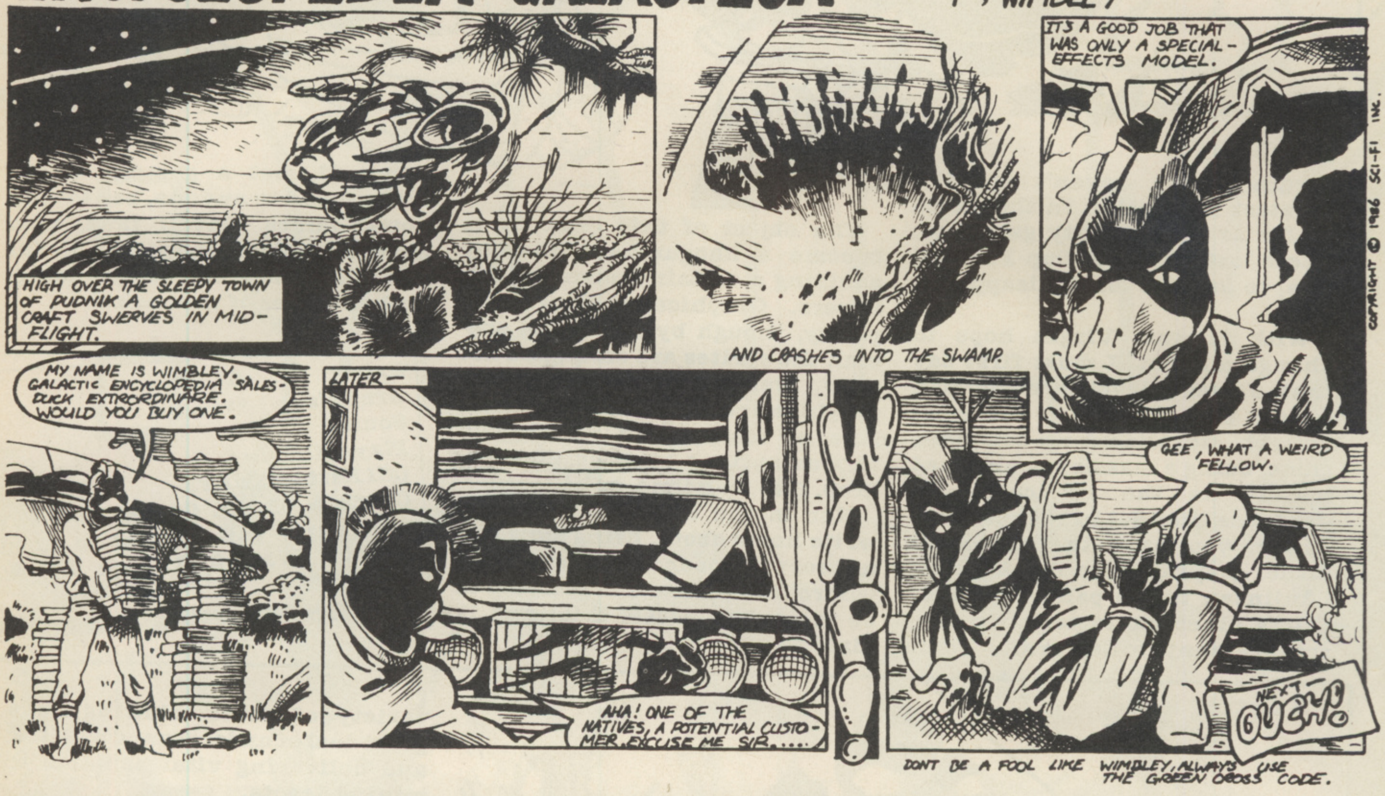
Our terrific new cartoon serial starts right here!

It is so positively brilliant we decided to give you the first two episodes at one go (Eat your heart out, O.F!). If you don't *completely* understand it well, we're glad we're not the only thickies about!

If you don't like it, tell Darren de la Pen, our aristocratic artist (he is directly descended from the notorious Baron von Ubermensch! So watch what you say!) You can write to him at 1605 Pennsylvania Avenue, Washington D.C. (Pity he can't spell 'encyclopaedia'— or can he?)

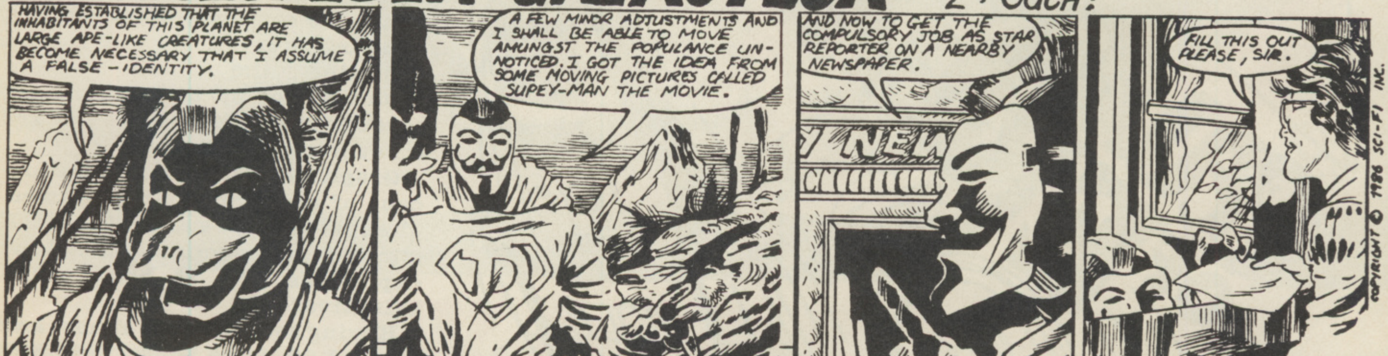
ENCYCLOPEDIA GALACTICA

1 ; WIMBLEY

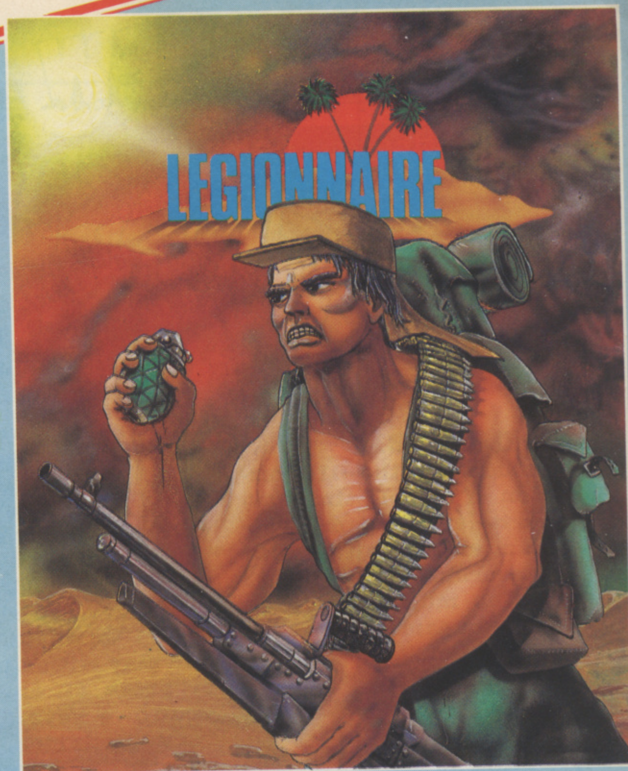

HIGH OVER THE SLEEPY TOWN OF PUDNIK A GOLDEN CRAFT SWERVES IN MID-FLIGHT.
AND CRASHES INTO THE SWAMP.
IT'S A GOOD JOB THAT WAS ONLY A SPECIAL-EFFECTS MODEL.
MY NAME IS WIMBLEY. GALACTIC ENCYCLOPEDIA SALES-DUCK EXTRORDINARE. WOULD YOU BUY ONE.
LATER —
AHA! ONE OF THE NATIVES, A POTENTIAL CUSTOMER. EXCUSE ME SIR.....
WAP!
GEE, WHAT A WEIRD FELLOW.
NEXT OUCH!
DONT BE A FOOL LIKE WIMBLEY, ALWAYS USE THE GREEN CROSS CODE.
COPYRIGHT © 1986 SCI-FI INC.

ENCYCLOPEDIA GALACTICA

2 ; OUCH!


HAVING ESTABLISHED THAT THE INHABITANTS OF THIS PLANET ARE LARGE APE-LIKE CREATURES, IT HAS BECOME NECESSARY THAT I ASSUME A FALSE-IDENTITY.
A FEW MINOR ADJUSTMENTS AND I SHALL BE ABLE TO MOVE AMUNGST THE POPULANCE UN-NOTICED. I GOT THE IDEA FROM SOME MOVING PICTURES CALLED SUPEY-MAN THE MOVIE.
AND NOW TO GET THE COMPULSORY JOB AS STAR REPORTER ON A NEARBY NEWSPAPER.
NEW
FILL THIS OUT PLEASE, SIR.
COPYRIGHT © 1986 SCI-FI INC.
DAILY NEWS
NAME; WIMBLEY THE MOVIE
AGE; 22 GOING ON 2000
PLACE OF BIRTH ; NIADIA
POSITION APPLIED FOR: ACE REPORTER
INTEREST'S, HOBBIES
STANDING ON MY HEAD. LEAPING OVER TALL BUILDINGS AND ANNOYING PEOPLE.
WHAT QUALITIES DO YOU THINK WILL HELP YOU IN YOUR JOB?
I AM THREE FOOT SHORT AND EXTREMELY INCONSPICUOUS. I AM ALSO VERY CLEVER AND AS SUBTLE AS AN EIGHT-ARMED VENUSIAN.
SIGNED Wimbley
I BEEN IN NEWSPAPERS FOR TWENTY YEARS. WORKED MY WAY UP FROM THE COPY ROOM. ITS A TOUGH JOB BUT I LIKE YOUR STYLE, KID. STEVEN SPIELBERGERS IN TOWN, COVER THE STORY.
ON THE WAY OUT, MIND THE DOOR ......
OUCH!
...IT STICKS.
NEXT: MOVIE MANIA!

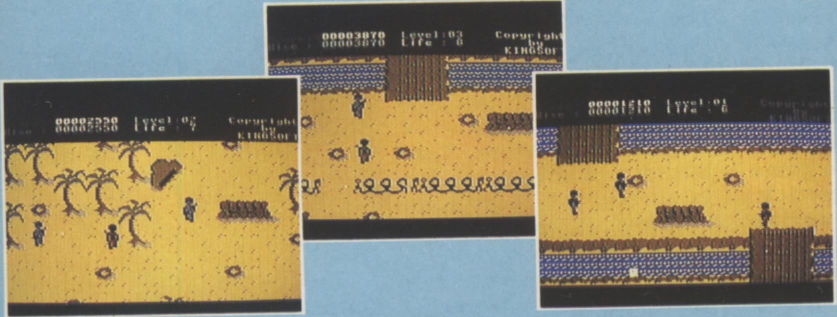
C16/PLUS 4



LEGIONNAIRE

Your mission is to take vital messages to the garrison headquarters. As you travel through the scrolling landscapes, you will be under constant fire from the tribesmen bent on reaching the fort. You will have to use your machine gun with great skill to get past them. There are seven separate areas of scrolling landscapes before the fort can be reached and each area requires increasing skill.

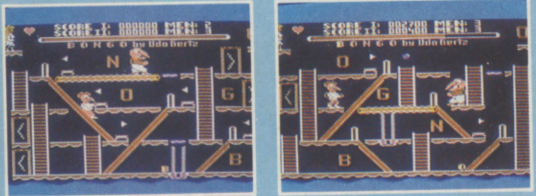
C16/PLUS 4 £6.95



BONGO CONSTRUCTION SET

Bongo Construction Set is a hilarious family game. Bongo is trying to reach the princess, hotly pursued by monsters. He uses ladders, slides, transporters, lifts and trampolines to elude his pursuers but they seem to know his moves before he makes them. There are six stages with five skill levels. You can design your own stages using the joystick and save them on cassette or disk to play later.

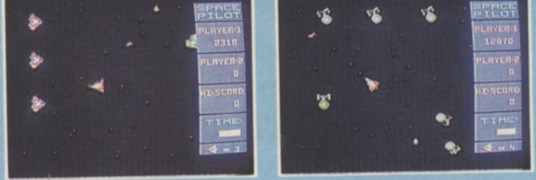
C16/PLUS 4 £5.95



SPACE PILOT

Space Pilot, the legendery hero, is under constant attack by alien ships with one aim - the destruction of his craft. The alien craft attack singly or in battle formation. Equipped with heat seeking missiles, their attack is deadly as well as relentless. Space Pilot with full 360 degrees scrolling and four stages, demanding ever increasing skills retains all aspects of a smash hit on CBM 64.

C16/PLUS 4 £5.95



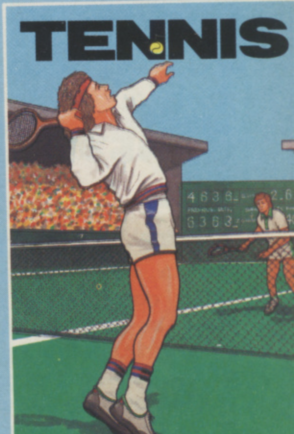
THAI BOXING

A unique combination of the noble art of Boxing and skills of Martial arts. Three stages of increasing skill.

16/PLUS 4 £5.95

FORTHCOMING ANCO RELEASES

Water Sports



CHAMPIONSHIP TENNIS

A Tennis Simulation quite capable of creating the drama of the Centre Court. Available Now.

C16/PLUS 4 £5.95

MICRO TEXT

Ideal for home user. Facilities include Centring and full Left and Right justification.

£7.95 (Cass). £10.95 (Disc).

MICRO BASE

An easy to use data base with full sort facilities. Ideal for keeping track of records or stamp collection. Club secretaries will find it very handy f storing names and addresses of members. Designed to print self-adhesi labels. Selected names and addresses can be selected for printing.

Available Now. £7.95 (cass). £10.95 (Disc

C16 and PLUS 4 REFERENCE BOOK

The book has been specially written for ANCO' It is a comprehensive guide for a beginner and a professional programmer.

£7.95

WATER SPORTS

Water Skiing and Shooting the Rapids.

C16/PLUS 4 £6.95

WATER SPORTS PLUS

Enhanced version for PLUS 4 owners or C16 with 16K expansion includes an extra event, Power Boat Racing.

£7.95 PLUS 4/C16+16K.

ANCO

ANCO SOFTWARE, 4 WEST GATE HOUSE, SPITAL STREET, DARTFORD, KENT. DA1 2EH.
Telephone: 0322 92513/92518.
Mail Order: Payment by Cheque, P.O., Visa or Access. 24 Hour Credit Card Service: 0322 522631

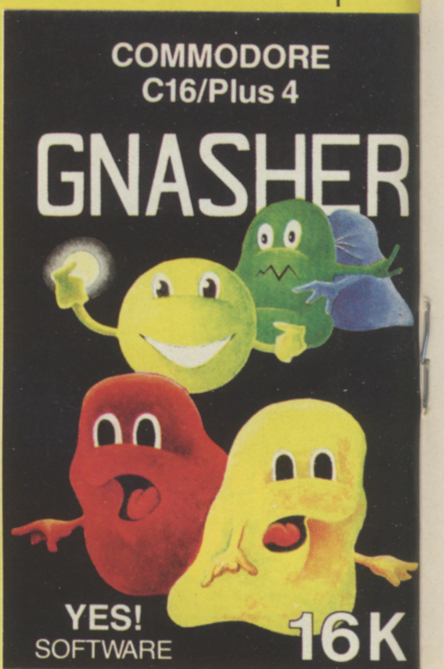
CCI Rating

CRISP

GNASHER

by

YES SOFTWARE



Gnasher

Gnasher is the C16 version of the old time favourite arcade game, Pacman, and is quite a good conversion. It is good to see, as most conversion Pacman games are a load of rubbish.

After loading Gnasher, you are presented with a title page made of Commodore keyboard graphic characters, with a line of smooth-scrolling text at the bottom, so it was with low expectations that I hit F1 to start the game. To coin a phrase, I was very pleasantly surprised with what I saw. The graphics are good as far as Pacman games go, even if the sound effects are a little pathetic; a sort of glooping noise.

When you load the game, you can either press F1 to start the game and play with a joystick, or press F2 and define your own keys. This is a very good idea, and is easy to implement, so I don't see why other programs don't include it. You select the keys you want to use for up, down, left and right, and then enter the game.

Level 1 is incredibly easy. I don't think the ghosts could have been made less intelligent if the programmers had tried. But as you rise through the levels, they get amazingly clever, until the game becomes almost impossible. This allows you to get into the game for the first time without it ending discouragingly quickly; a good idea. An extra life is given at 10,000 points.

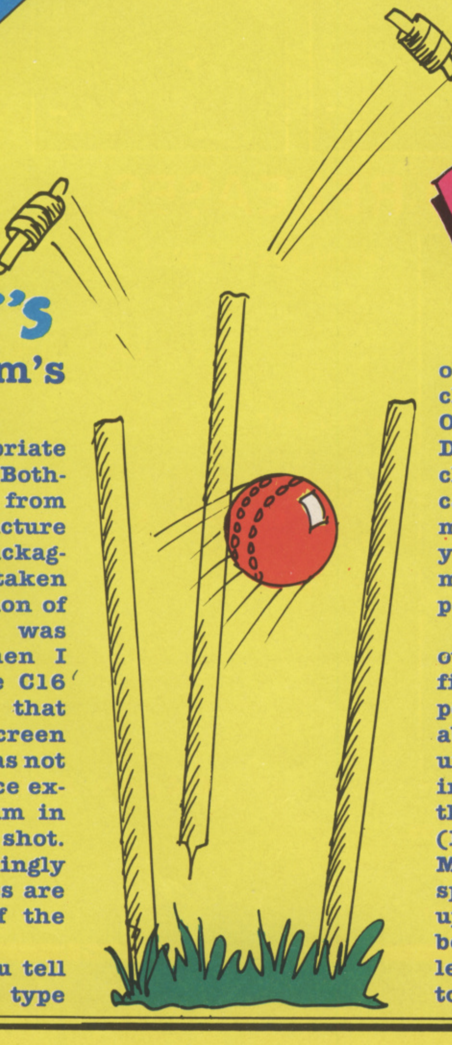
If you like Pacman, get this game. Although it isn't a masterpiece, it is a very good conversion.

Price: £2.99
Graphics: ***
Sound: ***
Playability: ****
CCI Rating: CRISP

CCI Rating

CRISP

HOWZATT!



TYNESOFT'S

Ian Botham's Test Match

Not a very appropriate title considering Botham's been banned from test matches! The picture on the back of the packaging is a screen shot taken from the BBC version of this game, and I was quite suprised when I first loaded up the C16 version to find that although the BBC screen was better, there was not that much difference except for the stadium in the far rear of the shot. Although not stunningly superb, the graphics are quite good even if the sound is lacking.

After loading, you tell the computer what type of match you want from a choice of three; Limited Overs, Test Match, or One Day. Then you have to choose your team. You can either have the Commodore select this, or you can enter their names yourself, adding a personalised touch!

Once all the selecting is over with, you place your fielders on the pitch in positions you think suitable, and play begins. Your team begins by bowling, and after selecting the type of ball required (Bouncer, Spin, Fast, or Medium), you press space bar to start the run up. After the ball has been struck, you select the fielder you want to field the ball with a cross. When you have selected him, moving him onto the ball causes him to throw it to the wicket keeper.

After you've bowled out the other team, you are put in to bat after each over. You choose the direction you want to bat in as the ball is about to hit the bat, and the computer fields automatically.

A good game, fun, even for myself who normally detests cricket.

Price: £7.95
Graphics: ***
Sound: **
Playability: ****
CCI Rating: CRISP

GREAT GAMES & ADVENTURES FROM TYNESOFT

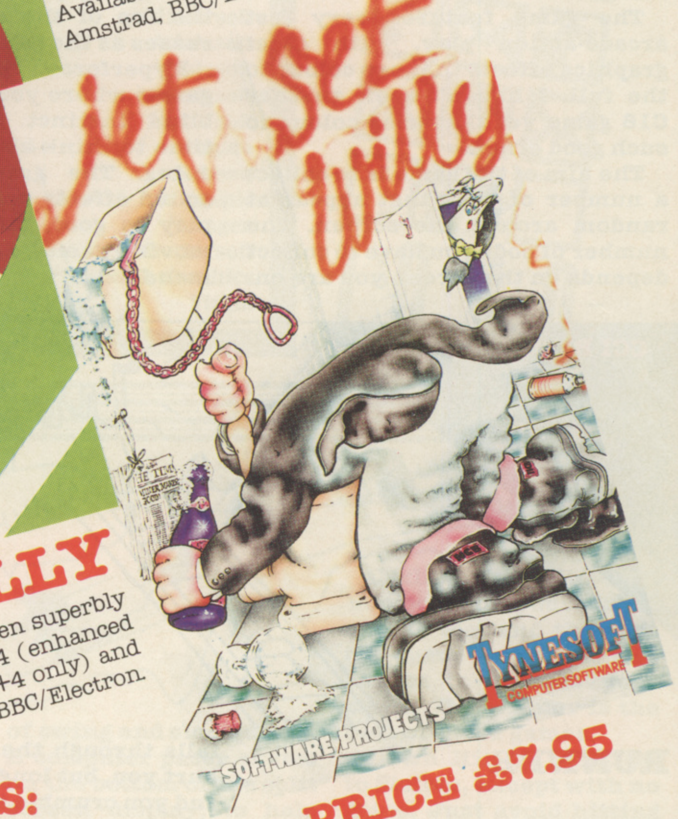
PRICE £7.95
IAN BOTHAM'S TEST MATCH
TYNESOFT
COMPUTER SOFTWARE

IAN BOTHAM'S TEST MATCH

A superb cricket simulation with the following features:

- Four Bowling Options
- Four Batting Options
- One Player Mode
- Limited Over Game (16 Overs)
- One Day Game (32 Overs)
- Test Match (Two Full Innings)

Available for the C16/+4, Spectrum, Amstrad, BBC/Electron.


jet set willy
TYNESOFT
COMPUTER SOFTWARE
SOFTWARE PROJECTS

JET SET WILLY

This classic arcade game has been superbly converted for the C16/+4 (enhanced version for +4 only) and BBC/Electron.

PRICE £7.95

FORTHCOMING RELEASES:

JET SET WILLY II – C16/+4, BBC/Electron and Atari.

WHO DARES WINS II – C16/+4.

SAVAGE ISLAND I & II – (A Scott Adams Graphic Adventure) – C16/+4, Spectrum, Cbm 64 and Amstrad.

TYNESOFT
COMPUTER SOFTWARE

Addison Industrial Estate, Blaydon, Tyne & Wear NE21 4TE
Tel: (091) 414 4611

CCI Rating
MEGA

HYPERFORCE

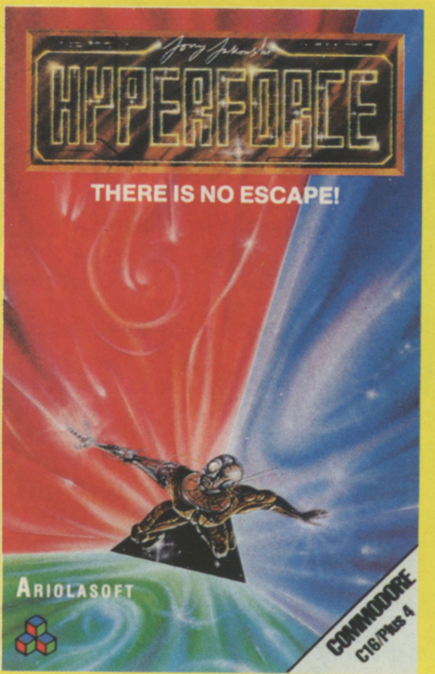
Hyperforce reminds me very much of a Llamasoft game, with its excellent use of colour and sound effects. For Ariolasoft's first release on the C16, it is very good, and if they can keep this standard up, they are sure to become a market force in the C16 market.

The game features very fast arcade-action play, with great graphics effects that use colour to the full. I haven't seen another C16 game yet that uses colour to such good effect.

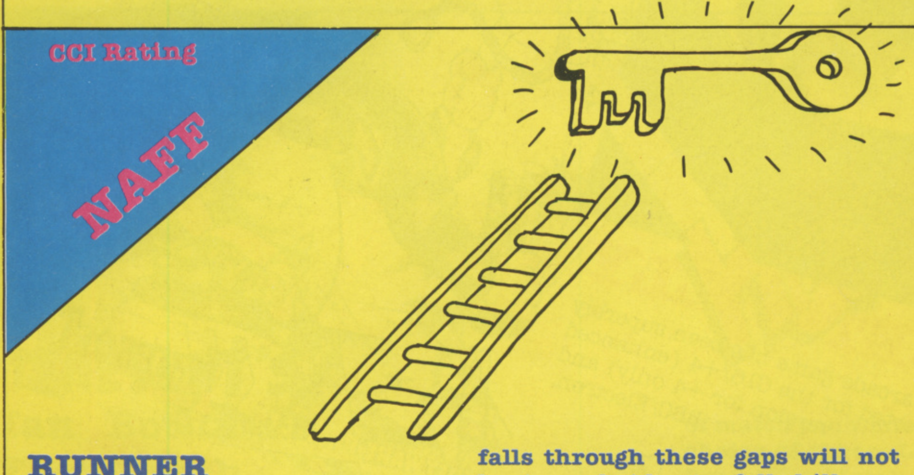
The aim of the game is to collect a number of pods that appear at random around the screen. The number of pods you have to collect depends on the screen you are on. You have to try to collect these pods before the chamber walls move in and absorb them. You can force back the walls by shooting them, but let them get too close and you'll be wiped out. Anything that the walls touch, they erase, so you have to be careful not to make them wipe over the pods.

There is a time limit on your life, which is called a pulse. Your remaining pulse is displayed at the top of the screen, and decreases as the game is played.

Hyperforce is one of those games where you just need to use blind instinct. You don't have time to think about what you are doing. The graphics are good, sound effects are good, and game play is good. *An excellent, fast moving game that I fully recommend.*



Price: £6.95
Graphics: ****
Sound: ****
Playability: ****
CCI Rating: MEGA
Contact: Ariolasoft



RUNNER

Runner looks like one of those games that was written for the Spectrum when it was first released. The graphics are crude, there is virtually no sound, except for a rather boring crash when you get killed, and it is essentially a monotonous game.

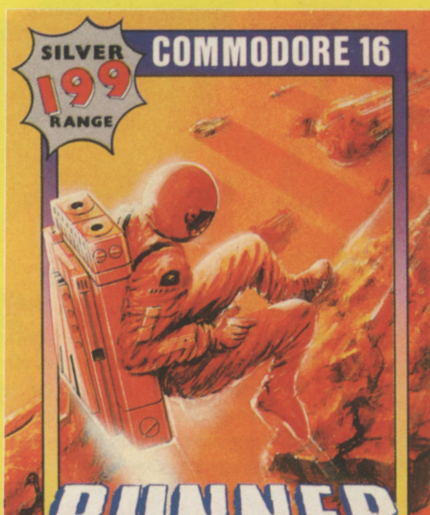
Having said this, it does after all only cost a mere £1.99, so it is reasonable value for money if you haven't got much to spend.

The aim of the game is to collect silver keys that are held to the roof of a chamber by magnetic clips. To get to the roof, you have to, yes you've guessed it, climb up and down ladders to platforms, and jump over gaps in the platforms by using your jetpac. Small falls through these gaps will not hurt you, but longer falls kill you, and you crumble into dust.

Trying to hinder your efforts are rocks, which come, of all places, from ventilators in the roof, and mutant pods (looking more like stale porridge on wheels) which wander about the platforms. If either of these objects touch you, you lose a life.

One nice feature, and about the only one, is that you can use either joystick port, so there is no need to fiddle about swapping ports when you play this game. Unfortunately, I don't think it will get played that much, but the idea is a good one nevertheless. Other software houses take note.

I can't really say that Runner is good, but luckily it isn't awful. Its a fairly average sort of game.



Price: £1.99
Graphics: **
Sound: *
Playability: **
CCI Rating: NAFF
Contact: Firebird Software

AWESOME?
IFFY?

Check for Yourself!

Bulletin 1000

CCI brings you once again exclusive news of what the marvellous Bulletin 1000 will be showing in the coming month at quality computer stores around the UK. (Does any other country have the same idea going?)

Led by the svelte, high-voltage Julie Inskip, Bulletin 1000 sets out to present you with an entertaining half hour video that gives you a chance to see before you buy the hottest properties on the current games market. Here you can see the latest list of goodies that Bulletin 1000 will parade for your delectation. If your own local computer store isn't showing you Bulletin 1000's latest taster of what's going on in the GamesWorld, ask them why! Keep up the great work, Jumping Julie!

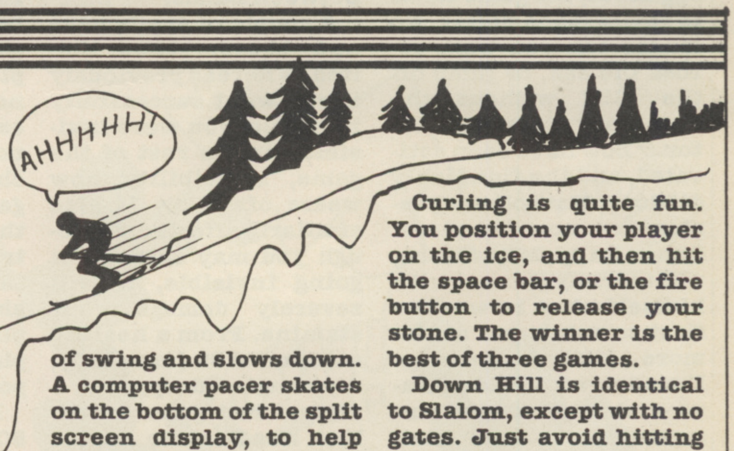
Leaderboard	U.S. Gold
Silent Service	U.S. Gold
Psi 5 Trading Company	U.S. Gold
Legend of the Amazon Women	U.S. Gold
Batman	Ocean
Green Beret	Ocean
Knight Rider	Ocean
Hunchback – 'The Adventure'	Ocean
Action Reflex	Mirrorsoft
Toadrunner	Ariolasoft
Touchdown Football	Ariolasoft
Hyperforce	Ariolasoft
Sai Combat	Mirrorsoft
Meltdown	Alligata
Pyracurse	Hewson
Graham Gooch's Test Cricket	Audiogenic
Mercenary	Novagen
Phantom Combat	Doctorsoft
Jack the Nipper	Gremlin Graphics
Shogun	Virgin

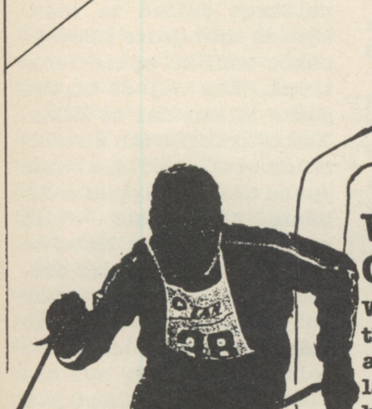
BULLETIN
1·0·0·0

MEGAREVIEW

CCI Rating

CRISP





Winter Olympics

Winter Olympics is another attempt to capitalise on the sports simulation market, this time by Tynesoft. It features six events; speed skating, ski jump, crest run, ski slalom, curling, and down hill racing.

In Speed Skating, you control your skater's leg motion with two keys, one for right and one for left. If you press them too fast, your skater gets out of swing and slows down. A computer pacer skates on the bottom of the split screen display, to help you "gain that fastest time of the day".

Ski Jump has you risking life and limb trying to jump as far as possible off a long jump ramp. This is the most unrealistic of all the events.

Cresta Run puts you sledging down the run, trying to compensate for your body weight when going around the corners. If you under compensate, you go flying into the trees! Painful!

Ski Slalom is a standard slalom event, trying to ski through every gate as fast as possible to gain maximum score.

Curling is quite fun. You position your player on the ice, and then hit the space bar, or the fire button to release your stone. The winner is the best of three games.

Down Hill is identical to Slalom, except with no gates. Just avoid hitting those trees!

Although this game is not superb when it comes to the graphics, or the sound for that matter, it is nevertheless fun to play. Playability could have been improved, and so could the instructions, but overall this must be one of the very best sports simulation programs on the C16.

Price:	£6.95
Graphics:	***
Sound:	***
Playability:	**
CCI Rating:	CRISP

Not Stuck in the Mud

In the last few issues, I've been taking a close look at some of the MUGs that are in existance, such as GODS and MUD2, Later, in another issue, I'll be taking a further look at these games to give you an update on how they are getting on. First of all, a roundup of what has been happening in the world of MUD2.

MUD2 has improved beyond all recognition since I last wrote about it. Although there are a few teething problems with the speed still flying about, the game itself is really much better. No longer can you walk across the sea, or jump off the cliff without the necessary item. The Baton & Bow have been activated, and the fiendishly difficult Mausoleum puzzles are now in place. Simon Dally, MD of Muse, was terribly pleased with himself when he was the first to solve one of the more difficult puzzles. I'm assured he didn't have a sheet with the answers in front of him! The game is also starting to drift away from MUD1 at last. Although there is still a lot of overlap, some of the MUD2 specific puzzles are now being activated. In MUD1, any key would unlock any door. In MUD2, only certain keys will open certain doors. To get into the inner chambers of the dwarven realm for example, you need two keys, and they mustn't be any two keys either.

There is also a new mobile called the Banshee that wanders about like a wailing wall. I haven't found out much about it yet, but when I do I'll pass it on.

New Spells

Magic Users have two new spells; SITE and RESITE. These work rather like teleportation. If you are at Narrow Road Between Lands, and you SITE successfully, that location will be remembered so that when you type RESITE, you are transported back to where you SITEed from, in this case Narrow Road Between Lands.

A couple of spells have now become time limited. Whereas previously if you went successfully invisible, you were invisible for the rest of the game, invisibility now wears off. Glow is also similarly affected. Although you may succeed in going invisible, it will severely damage your stamina. From a healthy stamina of 99 (max 100), my stamina dropped to 1 after I had gone invisible! Needless to say, I QUIT instantly. This was at Warlock which is two levels below Wizard.

Although it has been around for quite some time now, not many people seem to use SNOOP, or realise how useful a spell it can be. If you want to attack somebody, you can snoop on them, and then next time they check their score, you can read it, and decide whether it is worth the risk or not. By snooping, you will also see how many points you will receive should you manage to kill them.

If the person you are snooping on is exploring an area that you haven't yet mapped, you can make a map as they move from location to location, thereby saving a lot of time and credits! On the subject of credits, MUD2 is still charging at full rates, and I'm informed that although you are now charged 12 instead of 6 credits per hour, game usage has increased, and that they received very few complaints. This did sound a little like a press release, in oher words too good to be true, so I went into the game and talked to a few players myself. They did not seem overly concerned that they were now paying twice the old charge for playing the game, so I must assume that BT's statement was true. As I said, usage has increased, and this must show, despite loud complaints by old Essex players, that the game is popular and fun to play.

MUD2 now has around 500 subscribers, not all of whom play. Some of them are waiting to see what the game is like when is nearer completion before they start spending their carefully saved credits.

A very good scheme was set into motion in May, whereby current subscribers get given 30 credits free for every new person they can get to subscribe to the game. If you are a good salesperson, this could save you quite a bit of money seeing as each hour of play costs you 12 credits.

New Mugs

MUSE have several other MUGs planned, which I very briefly mentioned in an earlier article. I can now give you a few more details on one of the games being planned. It is to be set in the 1920's, in a gangster enviroment, with thugs, muggers, gang wars, violin cases and the like. It is refreshing to see an original idea at last. So far, any new MUG has been set in a medieval enviroment with magic and strange creatures, or in space. Before this, there wasn't really an original MUG. MUSE also plan other games, but no details have been released as yet. Federation, of which you may have read snippets in various news columns, is Compunet's effort. It is set in space, and has around seven thousand locations. What the press releases failed to mention is that quite a few of thses will be space locations. The object of the game is similar to Eilte. You start off with a small amount of credits, a basic space ship equipped with basic weapons and machinery. You have to rise in rank, aqquire credits, and build up your ship to gain power in the galaxy. You move from solar system to system via special links, and you can stop off at planets, which will be mini scenarios in themselves. The game sounds very interesting and should be good if it gets finished.

*----*Zaphod the Arch Wizard has just disappeared in a puff of smoke.*

CCI Rating

CRISP

Steve Davis SNOOKER

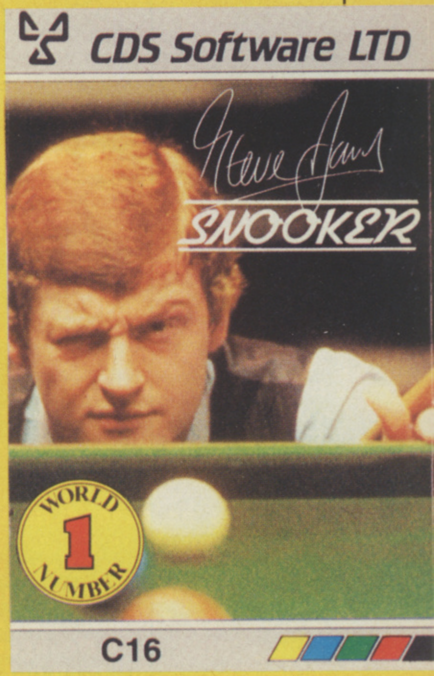
Steve Davis
SNOOKER

Steve Davis Snooker from CDS is quite a good attempt at providing a snooker simulation on the C16. I say attempt because despite having many nice features, it falls down on ball rebound. The balls behave more as if they were made of rubber than of hard, dense, heavy plastic, bouncing around at the slightest touch. This really spoils an otherwise very good game, and I really can't see why they released it with the bounce so high, when it probably wouldn't take more than a few minutes to reduce it.

You line up your shot with the crosshairs, and when you decide to shoot, you can vary the strength of the shot, and the spin direction. It also has foul shot ruling, so there's no cheating!

The tape contains two copies of the game. On one side you have a black table, and on the other a green table. On the green, the balls don't stand out too well; they're much easier to see on the black screen. Quite a good idea, but it is a pity it isn't just an option from within the game, but then with only 16k to program in, there probably wasn't room.

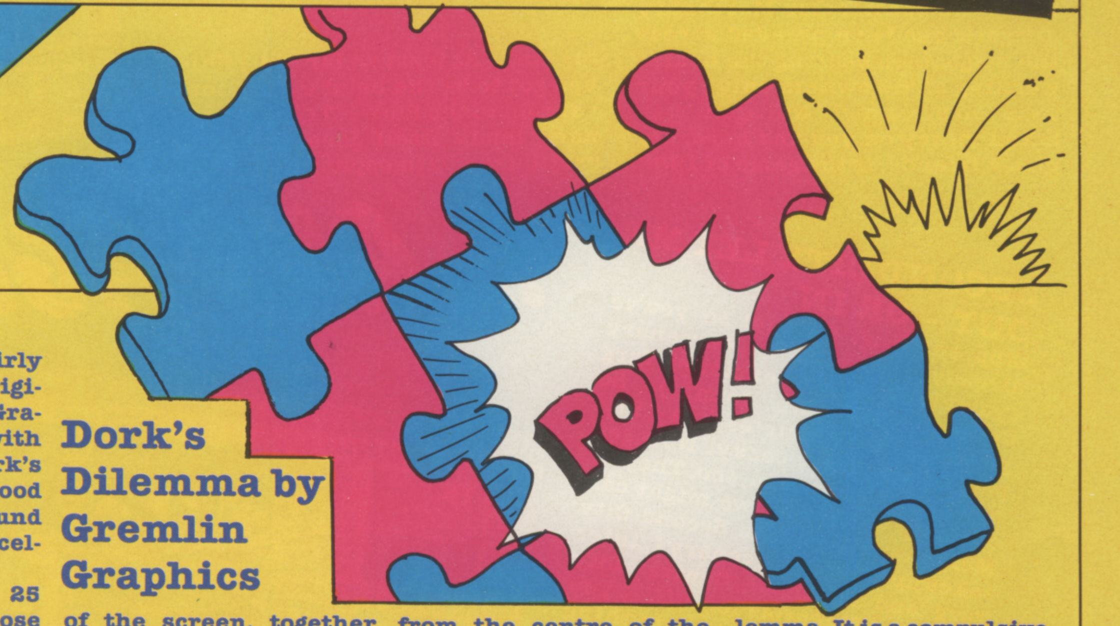
Apart from the rubber-style balls, it is a pretty good game. Easy to play, fairly well presented, and the balls move with reasonable smoothness. Unfortunately, the sound is awful. I'm sure they could do better than a pathetic 'phut'.



Price:	£7.95
Graphics:	***
Sound:	**
Playability:	****
CCI Rating:	CRISP

CCI Rating

MEGA



Dork's Dilemma by Gremlin Graphics

Nowday's it is fairly unusual to find an original game. Gremlin Graphics have come up with another one in Dork's Dilemma. It has good graphics, nice sound effects, and makes excellent use of colour.

Dilemma has 25 screens, and you choose which one you want to start the game in by pressing the space bar as the program briefly displays them each in turn. On each screen, you must eliminate a certain amount of aliens by exploding a bomb. The number you have to kill will vary from screen to screen, and the exact number can be seen in the score box on the right of the screen, together with your score, and the number of lives left.

When you drop the bomb, you have to get of blast range (this is a little unpreditable) pretty quickly, otherwise you'll be killed along with the aliens, who can be one of a number of different types. When you have exterminated the required number of aliens, a piece of a jigsaw from the centre of the screen is placed in the matrix on the right hand side. You then move onto the next screen by going through any of the flashing exits on the sides.

Once you've collected the jigsaw parts, you can piece them together on the matrix, completing the puzzle.

There aren't many games on the C16 that are as good as Dork's Dilemma. It is a compulsive game; you always want just one more go. With eye-catching colours, and nicely designed backgrounds, this would definitely be a good buy.

Price:	£6.95
Graphics:	****
Sound:	***
Playability:	***
CCI Rating:	MEGA

MEGAREVIEW

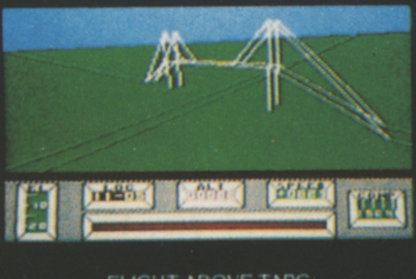
CCI Rating
AWESOME

MERCENARY STRIKES AGAIN...

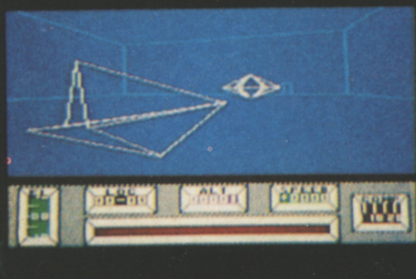
One of the oustanding games events of the year is the release of Mercenary. What's that? It isn't new? You read the review and the 'Awesome' rating in CCI already? You're going to turn the page? I wouldn't do that if I were you, Mister....!

This is no second look at the same thing. It is a record of the second and third stage of what looks like the beginnings of a Mercenary Industry. Remember Cindy Dolls? Well, Novagen's Awesome game could turn out to rival Cindy for its multiple side products.

As Novagen have realised, when you've got a great game, you can buld a whole new world on it. First, for those Plus/4 owners out there who have been salivating while the spectacular Mercenary artwork has been paraded across the magazines bearing the health warning of '64 owners only', your time has come!! Novagen has taken mercy on you and here, my plus/4 friends, is the game of 1986 for you. (At least so far, Ed.) This has got to be the outstanding conversion to the Plus/4. True, Mercenary lends itself ideally to the sprite-free atmosphere of the Plus/4. True, it is a game whose complex ramifications, the Targ Survival Kit, the free Hint Sheets, the full colour map, etcetera, etcetera, apply as much to Plus/4 as 64. True, the hints and clues in the novelette that accompanies it are as enigmatic, at least to me, in the Plus/4 Mercenary as the 64 but you've got to hand it to Novagen — not only have they created a legend but they've done a marvellous conversion that stands up to any comparision. Eat your heart out, 64 owners, someone's going to have the pleasure of playing Mercenary for the first time. Can one game get two Awesomes? You bet your Targan Megacredits it can!



FLIGHT ABOVE TARG



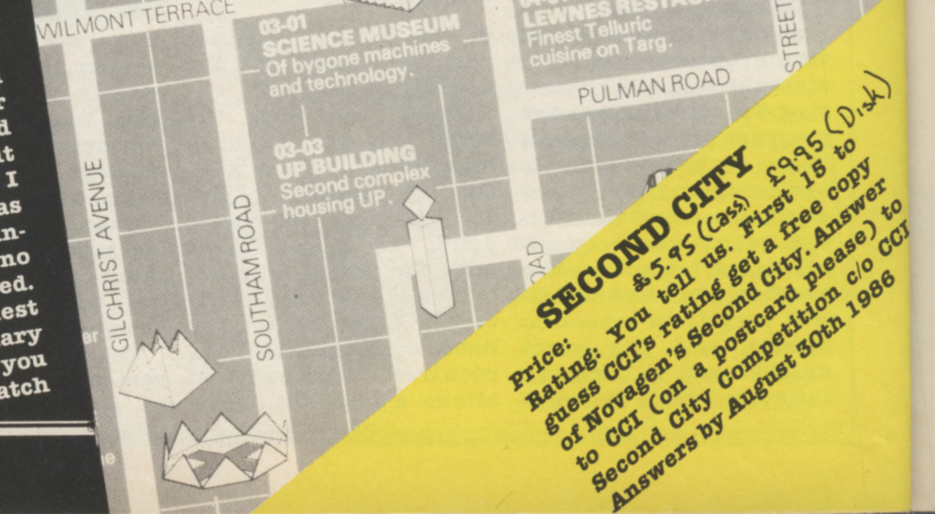
IN A SUBTERRANEAN COMPLEX

Price: £9.95 (Cass)
Graphics: *****
Sound: ****
Playability: *****
CCI Rating: AWESOME

...AND AGAIN!

SECOND CITY LET ME OUT — OR IN

Stop sniffing, 64 guy! so you've played Mercenary already (yawn!) So you've explored Targ Central City (Ho hum...). So you've plotted your escape (Yippee!)... Don't get cocky! Novagen have got it in for you, too, They've come up with what we might call Mercenary 1½. The Second City takes up where Mercenary I, Inter Targ and all those Central City maps and diagrams left off. If you played Mercenary with anything like the interest and pleasure we did then you will not walk, you will run to the nearest computer store and grab your copy of Second City. And by the way pay for it before you try to leave because, I quote, 'Every trick in the book has been used' in a conspiracy to hinder your escape.... No hints, no clues, all records destroyed. You're on your own! The toughest challenge yet for Mercenary enthusiasts!!' Don't say you haven't been warned! And watch out for the Empathy Bug!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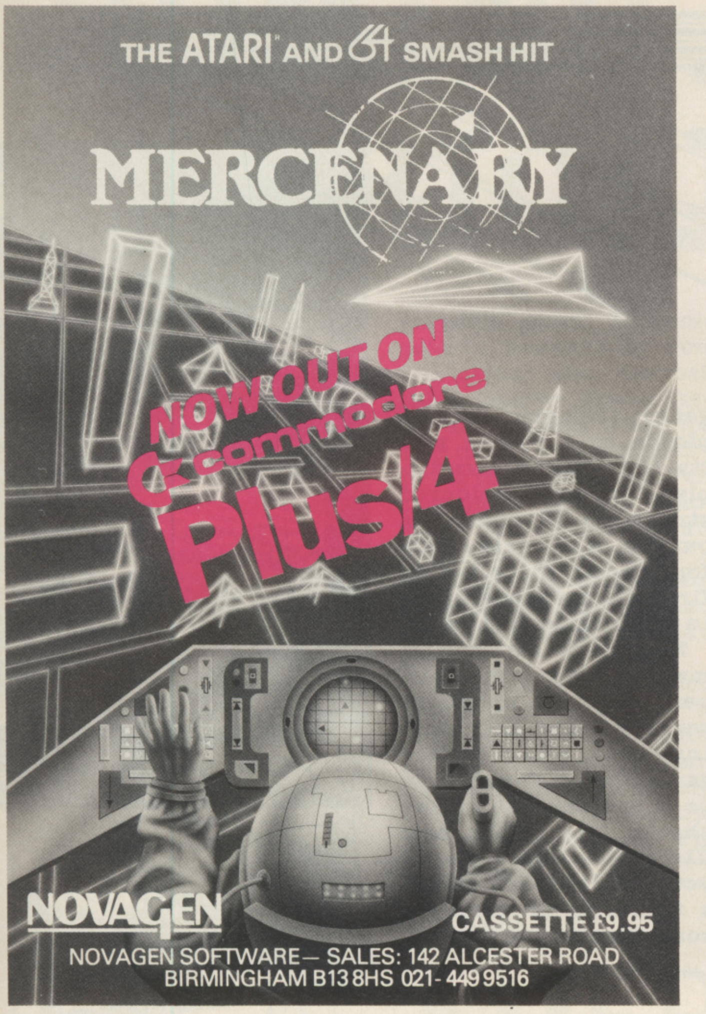

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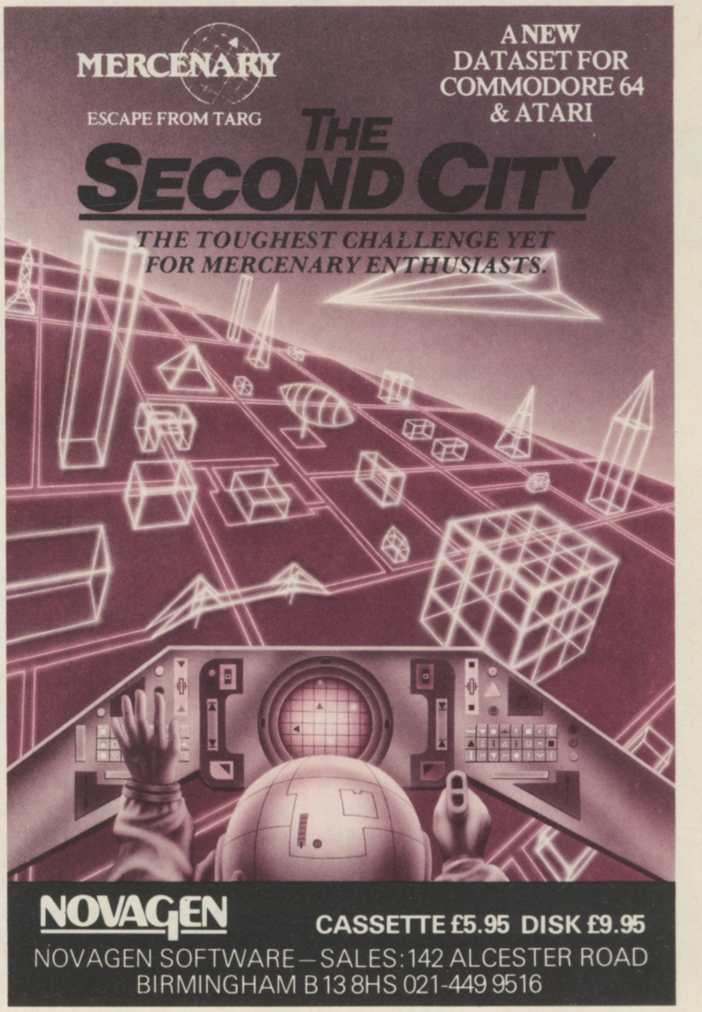

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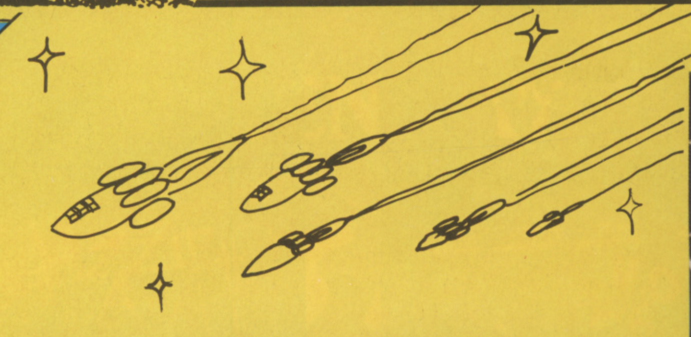
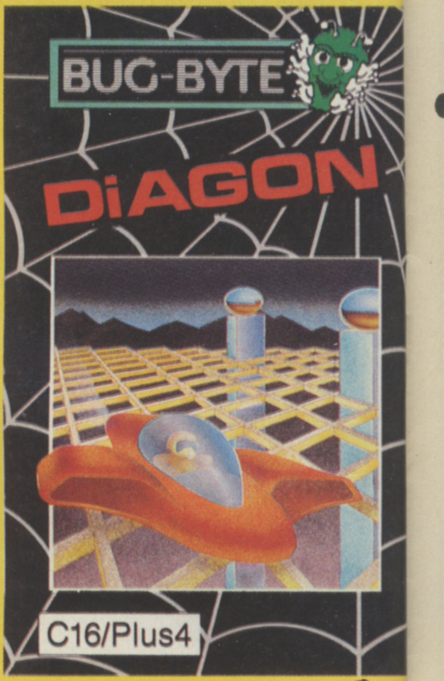
CCI Rating
AWESOME





Diagon

Diagon is a very fast and furious arcade-action game, and reminds me a little of Gridrunner from Llamasoft. The blurb on the box tells us that the "Krellis IV and the Di-Planium wars rage on. Control the Diagon network through 10 levels of defense. M-Droids cause havoc. Its death in the fastlane and sounds your Mother will love." Death certainly is in the fast lane, and is very difficult to avoid! Luckily, Bug-Byte have very kindly supplied 5 ships instead of the normal 3, which to a certain extent makes up for the high death rate.

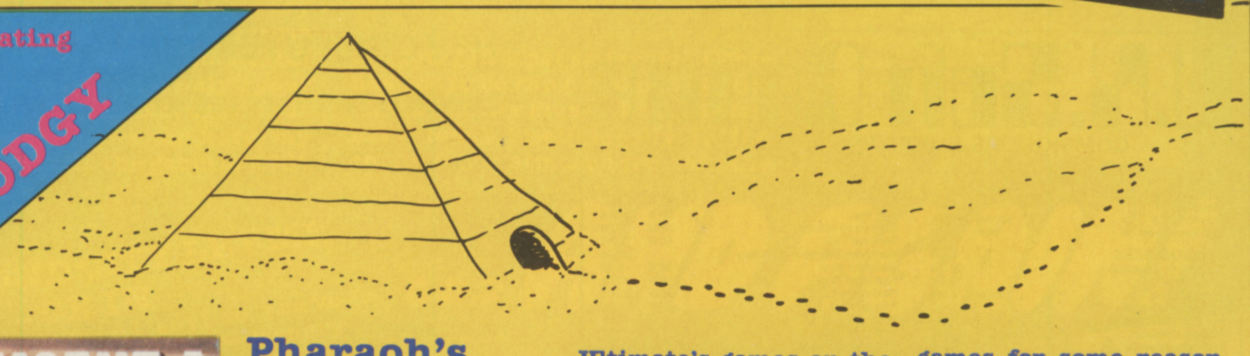
The sound effects are great, somewhat reminiscent of those found on earlier C64 games. The character set has been redesigned into a chunky, rounded font, together with lots of colour.

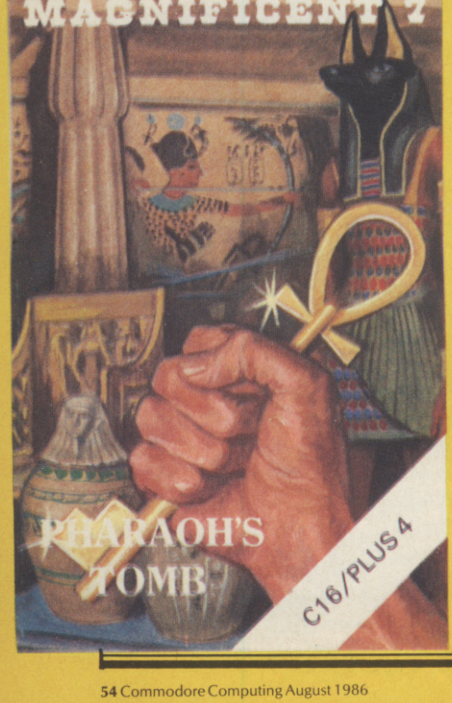
You control a small ship on a grid, which contains 18 solid obstacles. These can be used to hide behind from enemy fire, and from nasties zipping around the grid. If you get hit, then your ship explodes in a rather pretty, if unimaginative display of multi-coloured streamers. Around the outside of the grid circle four enemy ships, which fire at you through gaps in the outside grid walls.

This game is a definite must for any games player. With its excellent sound effects, fast moving action, and addictive game play, it deserves to be a number one in the charts. One of the best C16 games I have played yet, and likely to remain a favourite of mine for some time to come.

Price:	£2.95
Graphics:	****
Sound:	****
Playability:	***
CCI Rating:	AWESOME

CCI Rating
DODGY





Pharaoh's Tomb

It is a pity that this game doesn't live up to the name of the software company that wrote it, Magnificent 7, and if this is the best they can do, they'd be well advised to change their name.

The character you control is that of an explorer after the wealth of the tombs (even if he does look like a corrupted sprite). He moves from room to room through doorways in the walls, and the rooms are viewed from diagonaly above. The graphics seem to be an attempt to emulate Ultimate's games on the Spectrum, but are totally unsuccessfull. The monsters (mummies, spiders etc) are brown, your player is brown, the walls are brown, everything is brown. Its like having a monitor that only displays black and brown.

Occasionally, you'll come across a piece of treasure, which if you are lucky you may be able to recognise. The monsters are not bad, and the spider is nicely gruesome, if a little big. They move diagonally towards you as you move across the room, but it is not difficult to avoid them.

Sound is virtually nonexistant, as seems to be the case with most C16 games for some reason. The overlap when another moving object, such as a monster, comes near you is awful. In some cases, the monster almost disappears altogether.

If you have a lot of patience, and don't mind the lack of sound and rather bland graphics, this game can be quite fun to play for a short time, but has a very low boredom threshold.

Price:	£4.95
Graphics:	**
Sounds:	*
Playability:	***
CCI Rating:	DODGY

HOMING IN ON THE AMERICANA RANGE

Contrary to popular opinion, life at US gold is not a complete bed of roses (Shock!! Horror!!). To make sure that they get the rights to hundreds of number one smashes such as Summer and Winter games, they have, we believe, to take a few less good titles.

In an attempt to sell such games, US Gold have re-packaged them under a new label, AMERICANA These games - most were released in the US over a year ago - are to be sold at a budget price of £2.99, and represent tremendous value for money.

LICENSED TO THRILL
AMERICANA
SOFTWARE

In the next year, Americana will release more than ten new titles, but here I will tell you about the first eight games that arrived recently on my doorstep. Some of these games have already been released, as is the case with the first game I am going to talk about - BREAKDANCE:

As you can imagine this was a pretty difficult topic to write a computer game around, but Epyx - who produced it originally - have managed to combine graphics and sound to produce a very playable game. To compete in Breakdance you can either play against the computer, Simon style, and repeat what he did, or against a friend - vying for supremacy. For the more passive amongst you there is an option to just set up a routine, including headspins, backflips etc; and have the computer replay it.

Breakdance is a good game, and, at £2.99, it represents good value for money. However it is not as good as SENTINAL, my personal favourite of the Americana range. This is a basic 3-D action/arcade game that places you in a starship and, surprise surprise, you must save your planet from ultimate destruction. Good graphics, blasting sounds, and a price tag of £2.99 make this game a real bargain.

Another space type game is MOON SHUTTLE. In this particular game you have to blast your way through a series of asteroid belts, before reaching many other, and more difficult, stages. Based on Nichibutsu's original arcade game, again it is, to coin the phrase, an excellent blast!

As well as purely arcade games, the Americana range includes some arcade/adventures. NEW YORK CITY (NYC to its friends) puts you in the role of a visiting tourist who has only limited time to see all the sights - to say the least a difficult task!

Scrolls of Abadon uses a more magical setting, with your whole life revolving around pleasing your master. The better you do your job, the more impressive rewards you will receive. However if you fail to do your job - the punishment will more than fit the crime....

Most people will have heard of OLLIES FOLLIES, so if you haven't bought it, now's your chance. You have 24 screens in which to master the moves and reach the energiser before all hell breaks loose and it explodes! You must also avoid the blasts of hot-air that could easily cause your downfall....

Of the last two games, NEUTRAL ZONE has the best all-round gameplay. Good graphics, excellent sounds, and a completely scrolling panorama leaves you to protect Alpha IV, an early warning post that holds the key to your galaxy's safety. Your survival will depend on quick wits and cool joystick handling ability. Do you have them?

Finally we have SLAMBALL, a futuristic game that places you as the pinball. In this role there is absolutely no room for mistakes. Having turned you body armour ON, life becomes very difficult.

US Gold's Americana range goes head to head against Mastertronic's MAD games. Whether it will succeed depends a lot on how consistent Americana's games remain. If they are all high-quality American games that are just a little dated, it seems likely that they will be a success. If however US Gold view the Americana label as just a good way of getting rid of bad games, at a cheap price, games players will see through that immediately. We hope that isn't the case.

TOP TWENTY

C64

GAME TITLE	COMPANY	Price (£)	RATING
1 International Karate	System 3	6.50	Awesome
2 World Cup Carnival	US Gold	9.95	T.B.A.
3 Biggles	Mirrorsoft	9.95	Mega
4 Saboteur	Durell	8.95	T.B.A.
5 Cauldron 11	Palace	8.95	T.B.A.
6 Golf Construction Set	Ariolasoft	11.95	Awesome
7 Silent Service	U.S. Gold	9.95	T.B.A
8 Superbowl	Ocean	9.95	Crisp
9 Spindizzy	Electric Dreams	9.95	Awesome
10 Kentilla	Mastertronics	1.99	IFFY

C16

1 World Cup Carnival	US Gold	9.95
2 Street Olympics	Mastertronics	1.99
3 Return of Rockman	Mastertronics	1.99
4 Fingers Malone	Mastertronics	1.99
5 Hektick	Mastertronics	1.99
6 Bandits at Zero	Mad Games	2.99
7 Mr Puniverse	Mastertronics	1.99
8 Tank Attack	Solar Software	2.99
9 Jet Set Willy	Software Projects	6.95
10 Legionaire	Anco	6.95

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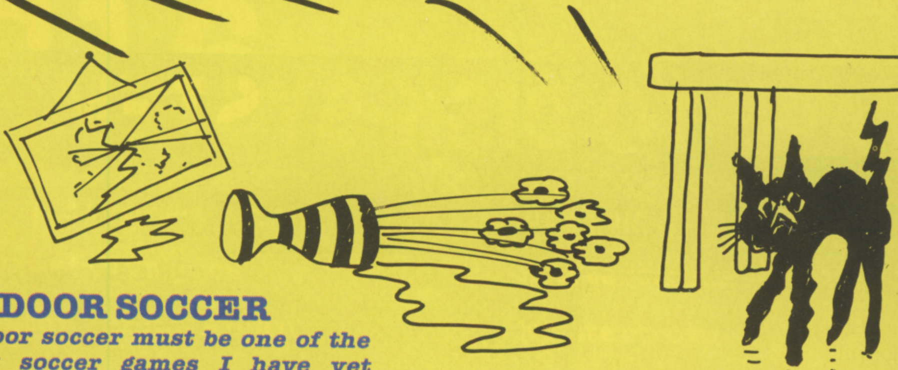
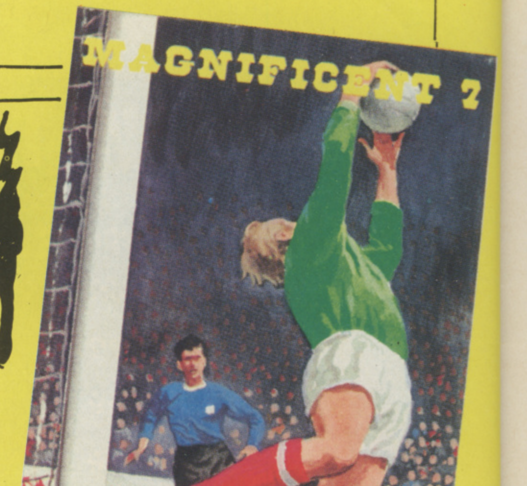
CCI Rating

AWESOME

INDOOR SOCCER





INDOOR SOCCER

Indoor soccer must be one of the best soccer games I have yet played on any computer, **for the C16 it is really an excellent effort. This program really shows what can be done in 12k, if a good programmer puts his mind to it.**

Unlike most scrolling playfields on the C16, Indoor Soccer has very smooth scrolling, and a well-drawn play field. The players themselves are also well drawn, and are fairly colourful. They certainly are a relief after having played Artic's World Cup soccer game, which featured players with noses rather out of proportion with the rest of them!

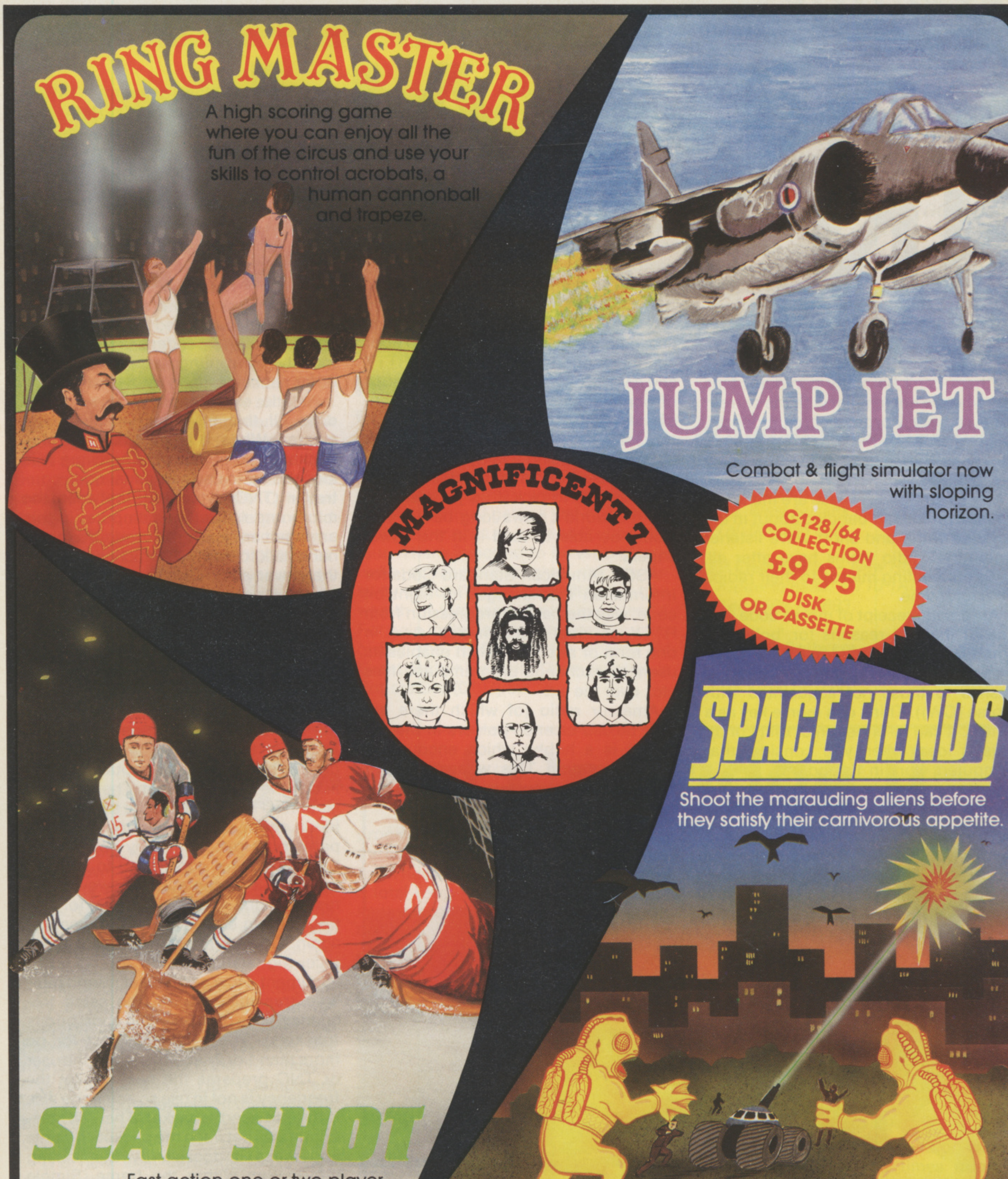
Indoor Soccer is not just another soccer game. It really is indoor soccer. As in the real game, sidewall rebounds can be used to dodge your opponents, and they really do look like sidewall rebounds; quite realistic.

Either two players can compete against each other, or one player can play the computer, which gives quite a good match. In my first game, the computer beat me 6:0. There are also three skill levels available; hard, medium, and easy, and hard really is for experts only!

If fighting breaks out between players, a penalty may be awarded, and you have 10 seconds to take the penalty. Penalties are sometimes awarded if one player is knocked over, in which case the victim falls down on his behind, rubbing his head; a nice touch.

In contrast with their other game, Pharaoh's Tomb, ***Indoor Soccer is excellent. Whether you're a soccer fan or not, you'll enjoy this game.***

Price:	£4.99
Graphics:	*****
Sound:	***
Playability:	****
CCI Rating:	**AWESOME**



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IT'S ALL IN THE AIR

BUZZ

There can't be many computer fans who are not familiar with the current crop of buzz words such as modems, Bulletin Boards, Micronet, Compunet, networks, the list goes on but how many are familiar with CW, RTTY, AMTOR, PACKET or SSTV? These are the terms you will often hear bandied about in the amateur radio and short wave listener fraternity. Radio Hams have after all, been connecting micros to their radios for a long time.

Automatic receipt of morse code was one of the first reasons for 'bolting' a computer to a radio. Morse code comprises bits of dits and dahs (or dots and dashes to those not acquainted with morse (CW)). Think of a morse key as a switch. It can be either on or off (1 or 0). This is ideal when you consider that computers work in 1's and 0's.

Pakratt PK-64 — claimed as the world's first interface offering Morse, Bandot, ASCII, AMTOR and Packet all in one box. (Price: around $200.)

AEA
Advanced Electronic Applications, Inc.
PK-64
THRESHOLD
TUNE
DCD
PTT
PAKRATT-64

For many years amateurs have been using old electrical/mechanical G.P.O. telex units via a terminal unit (a sort of modem) to send each other radio teletype (free telex?). This is more commonly known as RTTY. RTTY is sent using a five bit code called Baudot. It didn't take long for amateurs to realise it was possible to replace their noisy old teleprinters with a simple interface and a computer. AMTOR (Amateur Teletype Over Radio) is a more advanced type of RTTY which has error correction facilities to help eliminate errors due to poor communication conditions etc. RTTY and AMTOR are used by many hundreds of commercial and government agencies including Reuters, the world famous news agency, and TASS, its Russian counterpart. Using a fairly simple short wave receiver and a terminal unit (T.U.) it is possible to pick it up yourself and see the world's news long before you would be able to read it in the newspapers.

ASCII (American Standard Code for Information Interchange) an eight bit code, was the natural progression from RTTY, as most home micros use it in one form or another. ASCII enables its users to exchange programs and files etc., over the air.

Amateur radio (of which there are over 56,000 Licence holders in the UK alone) is a hobby which encourages experimentation. This, when liked with computers has led to many advances in modern communications. One of these being packet radio.

FRAMED

So what's so clever about this packet stuff? Packet ensures completely error free data communications. It can send data in almost any format. It can have multiple conversations occuring simultaneously on the same frequency and it can extend a sender's range enormously by routing transmissions via other packet stations (digi-peating).

A little explanation of how packet does all this may help make things clearer. While it is possible to run a packet system with only software it is more usual to use a terminal node controller (TNC) which sits between the micro and radio. The computer in this arrangement is simply used as a terminal to talk to the TNC which is doing all the clever stuff. Data is sent in packet blocks (known as frames) of up to 256 characters with a marker at the beginning and end so as to define the information needed to let the TNC know who to connect to and via what intermediate stations. One other important piece of information required within the frame is the frame check sequence (FCS). The FCS is a 16 bit binary number which is derived by means of a computation applied to the data to be sent. The receiving station's TNC then uses the same calculation on the incoming frame and compares both results. If they both match then the data is considered to be error free and is accepted. If, however, the results don't match, it waits for the transmitting station to send the packet again. On receipt of a valid packet the receiving station sends an acknowledgement. How can packet permit multiple transmissions on the same frequency? The data is sent in short bursts (packets). These typically last for no more than 1 or 2 seconds. While the user or TNC prepares the next packet the frequency is not in use so someone else is able to send a packet. The TNC discriminates between the packets it wants and those it doesn't, by the routing information within the frame. Simple isn't it?

GETTING IT TOGETHER

About fifteen months ago a group of amateur radio/computer enthusiasts got together and decided to pool their technical skills and resources to enable them to use data communications more efficiently. This proved highly successful. They then decided it would be nice to be able to share this wealth of information with other users. Thus the advent of

AMRAC (Amateur Radio And Computers). AMRAC has a good cross section of members specialising in particular subjects such as AMTOR, RTTY, PACKET and both Commodore and BBC ASCII to name but a few. Recently the club's prime concern has been with AX.25 PACKET which has taken off very well in the south west of England and many AMRAC members are now on the mode in 24 hour 'digi-peat' mode. This offers incredible range with very modest radio equipment because of its ability to route 'traffic' via other more powerful or better sited stations.

AMRAC produces a newsletter (THE AMRAC USER) about every six weeks which is aimed at keeping members in touch with the latest developments in data communications. (A little bird told me that they have some rather good contacts States-side). AMRAC hopes to set up a bulletin board via good old fashioned telephone lines in the near future using 1200/75 and 300/300 baud. This will, however, be initially limited to two or three evenings a week but with the prospect of a 24 hour seven day service if it proves to be a roaring success. The aim of the BB will be to inform callers of the latest developments in data comms and to gather new information about new clubs, ideas, comms software etc. AMRAC has at present several postal members as far afield as Scotland and Germany but the greatest benefits are derived by those members able to attend the regular meetings. It is with this in mind that AMRAC is hoping to encourage the formation of similar groups. For more information or help in forming such a group why not drop AMRAC a line. Their address and telephone number is in the useful information section at the end of this article.

HELP IS AT HAND

For those of you who would like to become more 'genned up' in radio data communications or for those in jeopardy of subsidising B.T.'s shareholders even more this year, why not look into the possibility of getting ON AIR. Either as a listener or as a Licensed Radio amateur. There is bound to be an amateur radio or electronics club not too far away, which I'm sure you will find to be a wealth of information and experience. For help in finding your nearest club try giving the RSGB (Radio Society of Great Britain) a call. Their number is Potters Bar (0707) 59015.

USEFUL CONTACTS

RSGB — *Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JW.*
Tel: Potters Bar (0707) 59015.

AMRAC — *Phil Bridges (G6DLJ), 9 Hollydene Villas, Southampton Road, Southampton.*
Tel: 0703 847754 (evenings) or 0703 891165 (day).

BARTG — *John Beedie, Flynnonlaf, Salen, Llaneils, Wales SA19 7NP*

EQUIPMENT SUPPLIERS

ICS Electronics Ltd — *PO Box 2, Arundel, West Sussex BN18 0NX.*
Tel: 024 365 590.

JEP Electronics — *New Road Complex, Kidderminster, DY10 1AL.*
Tel: 0562 753893.

Technical Software — *Upper Llandwrog, Caernarfon, Gwynedd LL54 7RF.*
Tel: 0286 881886.

The Final Cartridge II

Until last month, the Final Cartridge, together with Robcoms cartridges, were known as the best utility cartridges for the 64. Having received CCI's prestigious 'Utility of the Year' award, The Final Cartridge has been selling very well in the UK and elsewhere for nearly a year now.

Just before the Commodore Show in May, a French company, CAS Distribution, released a cartridge called the Power Cartridge which we reviewed last month. Now, however is the next stage in the cartridge story. H&P Computers have released a new, and if that is possible — even better, version II of the Final Cartridge.

The new final cartridge looks very nearly identical to the old one, it is small, black and pretty unobtrusive. On the back is a switch, and two innocent looking red buttons! It is these buttons that betray the first difference between versions I and II of the Final Cartridge.

Unlike the original cartridge, the version II has a neat and very easy to use menu system. Upon pressing the right hand button you are presented with the 'RESET MENU'. This has four options, all controlled by the function keys. The first option allows you to 'Reset' the computer, if for example a basic program hangs but you want to get it back, you can use reset, and then 'OLD' the program. Pressing F2 jumps you into the comprehensive machine code monitor. The last two options either give you a total reset (after which everything is lost), or reset the machine into standard 64.

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THE FINAL CARTRIDGE
NEW
INCLUDING FREEZER

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Freeze

On the left hand side of the cartridge you have another red button, again which controls a menu system — only this time it is a 'Freeze' menu. Most people will now be aware of the idea of freezing whatever program is residing in memory, only to subsequently save it on either tape or disk. The Final Cartridge allows you to do this (and it is one of the best examples of this genre that I have seen).

As well as the ability to copy almost anything to either tape or disk, the 'Freeze' menu also allows you to dump whatever is on the screen, either with H&P's own centronics cable, or more surprisingly using a serial cable. Thankfully you can also go from one menu to another using F8.

As well as these features, the Final Cartridge has all the features you would expect, a disk turbo that works about 6 times normal speed, a tape turbo capable of working at ten times normal speed, a complete basic toolkit, with some excellent additions — including Auto, Renumber, Find, Help etc.

All of the function keys are redefined to allow specialist commands such as Dload, Dsave, Catalog, Run and List. For confident programers/hackers, the ML Monitor is both comprehensive and easy to use.

Overall, the Final Cartridge II is really very good. It has all the facilities that anyone could possibly need in the way of a cartridge, and they all appear to work very well. **If you are looking for a cartridge, you can't go wrong with the Final Cartridge II.**

80 Column Adapter

by Horasoft £12.99

So you've decided to get a little more businesslike in your computing and bought yourself a real 80 column machine. In view of your existing Commodore 64 programmes you thought it best to get a Commodore 128 which, of course, is 100% compatible (99.99375% maybe). Now what do you do? You plug it all in et voila! Up pops the 128 logo etc. Great! but what about the 80 column screen? Try as you might there is no way you can persuade it to give you a peek at that elusive display. As you may already have a monitor you might feel just a trifle disgruntled at its inability to work in 'business mode'. Still, a new 128 monitor is a snip at only a month's wages (I really must see about a pay rise).

However, all is not lost. Somewhere in the depths of the user manual you will find a description of the RGBI port. On close inspection you may notice the wor d 'monochrome'. This is to be our saviour. Pin 7 of this port does indeed provide a signal capable of giving us an 80 column screen on almost any monitor (If I say all monitors then Sod's law will inevitably strike). It's not going to be in glorious colour but most C/PM and business software packages will look fine in good old black and white, or is it black and green?

So how do you go about getting this signal into your monitor? Simple, you use an interface cable. Now, if you are an electronics bod, you can nip round to your local electronics emporium, buy a bundle of bits, glue them all together and you're off. If you are just a regular computer whizz kid, however, you may find it easier to go out and buy a ready made cable. The Hora connector is one such animal. It comprises of two eight pin DIN plugs, one male and one female, and a nine pin D type plug (RGBI plus). These are connected by 3 short sections of shielded multicore flex to form a T shape. The RGBI plus also sports a red two position switch. This enables it to maintain the normal colour display when in 40 column mode, whilst providing a monochrome 80 column display when switched. To install and use the connector is simplicity itself. The male DIN plug fits into the normal C-64 style video socket on the rear of the computer. The RGBI plug fits into its respective socket, also at the rear. The monitor cable is then plugged into the remaining female DIN plug. Changing screen mode from one to the other is accomplished by operating the switch and then pressing ESC X. All in all the Hora connector is a simple and functional method of obtaining an 80 column display cheaply and without much fuss. There is little that can go wrong with the cable and once fitted it can quite happily be forgotten. The most difficult part for me was explaining to the wife why her housekeeping was a bit short this week!

Contact:
Horasoft, Finsbury Business Centre,
40 Bowling Green Lane,
London EC1R ONE.

Graphic Expander (128)

by Horasoft £9.99

My Commodore 64 was really great. The only problem with it was the poor Basic which made using the hi-res graphics pretty difficult. Still, now I've got a Commodore 128 which has got a super Basic and lets me use all of the computer's capabilities with ease. What? It doesn't have any commands to use the 80 col hi-res. You must be mistaken! I thought it was too good to be true. I have no doubt that Commodore in their infinite wisdom will tell me that the eighty column screen was primarily intended for business applications and therefore doesn't need any hi-res commands. It's a bit like getting a new toy for Christmas only to find you don't have any batteries. If it's got 80 col hi-res it seems reasonable that people are going to want to use it. Enter stage left the Graphic Expander by Horasoft (who?). This is an easy to use utility/program which allows you to use the 640 by 200 resolution on 80 column with simple commands (some software houses seem to take great pleasure in creating utilities that require a degree in cryptography to enable their use).

There are thirteen commands in total, all of which are listed below:

HBOX	— *Draws boxes*
HCIRCLE	— *Draws Circles*
HCOLOR	— *Defines Colours*
HCOPY	— *Hard copy to your printer*
HDRAW	— *Draws lines*
HGRAPHIC	— *Sets the graphic mode*
HLOAD	— *Copies 40-col graphics into 80-col screen*
HPAINT	— *Fills shapes with colour*
HPEEK	— *Looks at a byte in the graphic screen*
HPOKE	— *Modifies a byte in the graphic screen*
HRDOT	— *Returns the pixel status*
HRGR	— *Returns the RGBI processor register value*
HSCNCLR	— *Clears the hi-res screen*

Horasoft seem to have struck up a nice balance between having so many commands that you need to plough through the manual every five minutes and four or five commands that never seem to match your needs. Most of the commands are of a similar format to those provided by the 128 for 40 col-res but with a 'H' prefix i.e.

40 col - DRAW colour ,x,y,(to x1,y1)
80 col - HDRAW plotmode,x,y, (to x1,y1)

The major difference between comparabe commands is the use of plotmode instead of colour. Plotmode defines the way in which the graphics will appear on the screen. The modes are, 0 to erase, 1 to draw and 2 to invert (flip). The colours (foreground and background) are set up with HCOLOUR.

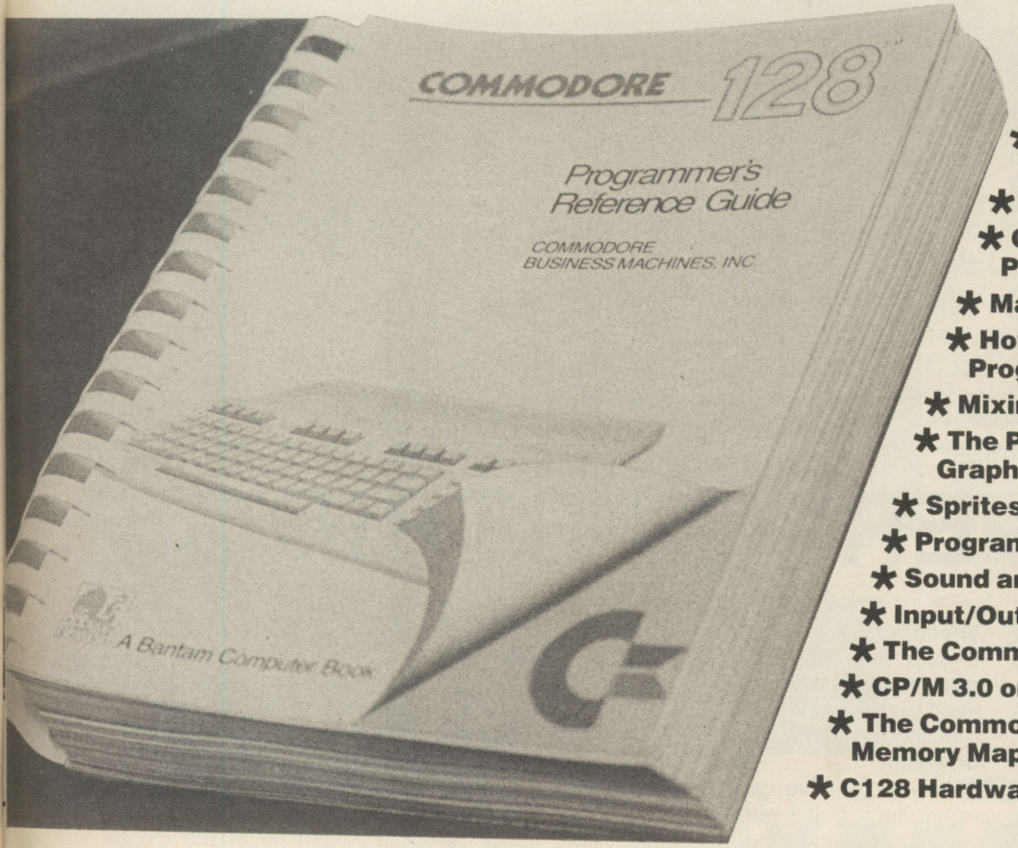
There are two demo programs on the disk and an additional 11 hi-res screens which can be loaded in, in both the 40 and 80 column modes. The fancy text in the screen shots may be familiar to those of you who are lucky enough to have Broderbund's Print Shop program.

Two of my favourite commands are HLOAD and HCOPY. They are not marvellous innovations or anything spectacular but show that a lot of thought has gone into what I consider to be an excellent utility. I wonder if that good looking editor of mine (grovel grovel) will let me keep this copy for a little while longer?

C128 Programmer's Reference Guide

This is a very important book.

Its 742 pages are crammed with information that no serious 128 user can afford to be without.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COMMODORE BUSINESS MACHINES, INC.
A Bantam Computer Book

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BLINKER 64

What't this, yet another dig at my unstructured free format programs? If only I had been given a pound each time I was lectured on the necessity of well organised programing! Well, it looks as if things are going to get easier. INDEV has come up with BLINKER, a Basic Linkage editor. Now what, I hear you muttering to yourself, is a linkage editor? In simple terms a linkage editor is a utility which enables a programme to be constructed from a number of small modules. These modules would typically be stored on disk. So what good is that to you? Let's say you have just written a wonderful accounts program which you have dutifully structured and made up from your saved modules (subroutines). After the man at Fleece 'em & Scarper Software Ltd pays you your £83.29 you decide to write a super-dupa word processor package. Lo and behold you find that the accounts print routine will do just fine. Oh and stone me, so will the load routine, the save routine, the window routine and so it goes on . . . **Blinker 64 makes putting loads of routine together, the way professional programers do, within reach of anyone.**

Blinker is intrinsically very simple to use without any unnecessary frills and spills. No fancy hi-res screens or jingles here. To link in a module from disk couldn't be easier. Just type BLINK 'program name' and in the time it takes you to say Commodore Computing International (phew) it's all done. On listing the program you will find your program and module all nicely married up and renumbered. Multiple links can be done with the same command by stringing them all together with a comma separating each module name, i.e.

```
BLINK 'Program name', 'mod 1', mod 2',
'mod 3' etc.
```

My favourite feature of Blinker was the ability to give gosubs module names, which could then be loaded in and linked in to the main program when 'blinked'. Eg:

```
100 PRINT 'Please enter a number'
110 GOSUB 'getkey'
120 PRINT a$
```

After linking it might look like this:

```
10 PRINT 'Please enter a number'
20 GET a$
30 IF a$=" " THEN 20
40 IF ASC(a8) (48 OR ASC(a8))57 THEN
  20
50 PRINT a$
```

Where lines 20 and 40 are the contents of a file called 'getkey'.

One small bug I came across was that should you accidentally BLINK whilst having the wrong device number selected (an option to change the device number is on the Blinker menu) then the computer locks up and takes the rest of the day off. The only remedial action I could find was to turn off and start again.

CONCLUSIONS

I liked Blinker. It was easy to use and came with good documentation. I feel it would be ideally suited to the education environment where it could assist in encouraging better programing techniques. Would I have bought it? I'm not sure, although as a programer that seldom uses Basic I may be a little biased. It is nevertheless a program I would recommend to anyone starting out in Basic and who would like to get off in the right direction. (I'm probably past saving anyway!)

There is no doubt, if you are not a professional but want to do things the professional way, Blinker 64 is what you need. It's got to be excellent value at its price.

Price: *£29.90.*
Contact: *Indev, 24 Deerings Road, Reigate, Surrey RH2 0PM.*
Tel: 07372 22755.

THE EXPERT CARTRIDGE

I was beginning to sink. I was up to my ears in utilities to transfer my old tape programmes onto disk. Why? Because there were always a few programmes that would resist all efforts to stuff them onto floppies. It can be very difficult explaining to the wife why you need to spend thirty pounds for yet another 'thingy' (blind her with science) to copy your precious tapes over to disk, when only last week you spent a small fortune buying an almost idential 'wotsit'. Well, no more buying redundant kit. Trilogic has come up with a simple but ingenious solution. They have designed a cartridge which doesn't work... until you load in some software from disk. The way the Expert works is almost identical to the rest of the current crop of backup cartridges but instead of the programme being resident in ROM you have to load it into its RAM. Why not put it in ROM in the first place? This is the clever bit. As new and more complicated software comes out many of the 'old' cartridges will be unable to transfer them. This also applies to Trilogic's of course. However, should you just happen to pop two pounds and a disk off to them they will send their latest offering which you can then load into your cartridge and off you go again.

You may have gathered from my mumblings that I rather liked my new toy. You would be right. To use, it was simplicity itself. First load in the software, press the reset button and type N. This need not be done again unless you power off the computer. Load in and run the programme to be transferred, press the reset button and then type Z followed by the name of the programme within quotes and it will then be safely saved onto disk. A backup from disk to disk is accomplished in exactly the same manner. It is also possible, using an extra utility on the disk provided, to turbo save your Expert saved programmes back onto tape should you want to archive them. It was using this programme that I encountered my only problem. There was one game which would not load back in after being saved to tape. I tried several times to no avail. I came to the conclusion that it was due to its very large size as I believe there is a bug in the Commodore tape save routine which prevents it saving the contents of very high memory. Maybe the next level of software will overcome this.

If these had been all of the Expert cartridges features I would have still been happy but no. The cartridge when loaded, also contains an excellent monitor/assembler which is a cross between Supersofts ZOOM and the Commodore machine code monitor. So if you have upgraded from tape to disk or if you have just discovered what it's like to lose a disk you didn't have a backup of, then this is the Cartridge for you to consider. An old Sage of many years experience (the editor!) was once heard to philosophize that the likelyhood of losing a programme is directly proportional to its cost!

Contact: *Trilogic, 29 Holme Lane, Bradford BD4 0QA. Tel: 0274 684289*
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C128 SWIFT

Professional Style Package

It must be very frustrating for new 128 owners to find that more than 90% of the time they are using their machines purely as Commodore 64s with a better keyboard. In some ways this is like having a VIC-20 emulator for the 64.

Fortunately many other people have also seen the potential of the 128 as a small business machine - a role, in which the 64 was never really very comfortable. One of the first serious packages that utilises some of the 128's features is Swift 128, part of the Audiogenic Professional series.

Swift 128 is, quite simply, a spreadsheet. It works on a very similar format to the original Visicalc, but in my view this is a plus, definitely not a minus.

In reviewing this program, it immediately becomes sadly apparent that it is a 64 conversion, even though it is done very well. To do this product justice you would really need to compare it with two or three competitors, alone it functions well, but its failings are less obvious.

"Concise, yet detailed"

On opening the package you are presented with an absolutely first class manual. Audiogenic seem to have gone to great lengths, and the manual reflects this. It is concise, yet detailed enough to satisfy even the most diehard spreadsheet fanatic.

On loading Swift, if you have your 128 rigged up to a suitable 80 column monitor, you are presented with an empty set of cells, but using Audiogenics 'pop-up menus' you can soon have replications flying all over the screen!

In many ways Swift leans more towards the financial side of spreadsheets than many I have previously used, and this is aided by the inclusion of some first rate maths functions, such as Mean, Standard Deviation and Variance, all of which are extremely helpful to any serious user.

The first difference that becomes clear is size. Swift 128 is capable of calculating up to 16256 cells simultaneously, and I can promise you that is plenty! Once you have mastered the real basics of spreadsheet use, such as text entering and basic maths, you can start to explore Swift, and produce some really fascinating charts - I still believe that spreadsheets are the perfect example of what a computer can do when used properly.

As I have mentioned, Swift uses a 'pop-up menu', and as such it does its best to create the feel of a larger mouse driven micro. However in many cases this is more trouble that it's worth; Swift manages to reduce the need for really complicated key letter entries, something for which all users of Visicalc will be very thankful.

Without going into great detail in each individual command that is available to the user, suffice it to say that all the features I tried worked roughly as I expected them to, and some of the formatting and ranging functions are excellently implemented.

"Highly competent"

Overall, Swift is a highly competent product. As I have said, it is very similar to its 64 predecessor, but this is only to be expected. For me it comes down to two things; firstly, having bought a Commodore 128, I would not then buy a 64 spreadsheet, and secondly it runs in 80 columns.

No one can fault Audiogenic for this product. It represents a compromise, but a very good one. If you've got a 128 and an 80 column monitor, I recommend this product.

Contact: Audiogenic Ltd, P.O. Box 88, Reading, Berks, England.

Perfect 16

Word Perfect is a cheap and simple word processor for the C16, one of the very earliest to appear on this machine. Of course, with only about 12k of user ram to play about with, the program doesn't have features in abundance, but then, it doesn't actually need them. For really serious world processing you wouldn't use a C16 anyway.

Word Perfect is quite satisfactory for writing letters, essays, and reports, where advanced features are not really needed. Nevertheless, it does have quite a few useful features, such as moving blocks of text, copying blocks of text, tabs, margins, and text centring. You can also set the page size, and if you select a width larger than 40 characters the whole screen scrolls sideways to accommodate the rest of the line. When you near the end of a line, a bell sounds to warn you, just like a typewriter. It isn't really needed though, because Word Perfect automatically word-wraps at the end of the line. If there are five characters remaining on the line, and you still have seven letters left of a word, it wraps the whole word round to the next line. This saves an enormous amount of bother. Text can also be merged from another document into the current document, meaning that you can write two documents, and then merge them into one at a later date should you wish.

For the price, Word Perfect represents excellent value. It is powerful enough for a home user, is easy to use, and loads quickly because of its size. A good program all round. This article was written on Word Perfect, and although you only have a window 40 characters wide, this is not really a major constraint.

Wordperfect: Price: £12.95 (tape) £14.95 (disk)

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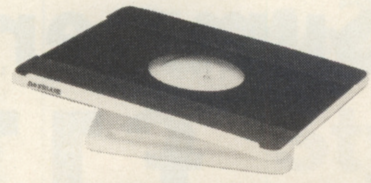

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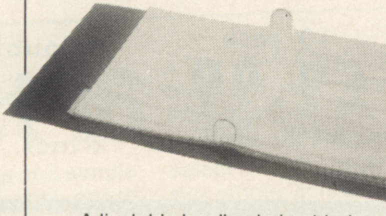

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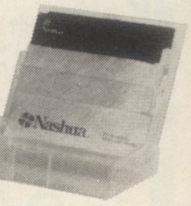

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Poke 22 Plus

Peter Sims has taken up an idea first presented in the March issue of CCI by Ian Bennett 'Poke 22' and adds to its usefulness

The article **'POKE 22'** in 'Hints and Tips' of the CCI March issue can be more usefully applied to the 128, C16 and +4 on which LIST does not suffer the same restriction it has on say the C64 or the VIC. On these newer machines LIST does not do an implied END command, instead it just carries on to the next command.

For the C16 and +4 the POKE location and values are the same as for the C64, but for the C128 they are different. As you might expect, if you have any experience converting programs from one Commodore machine to another, however the end result is much simpler.

On the C128 the code to use LIST to print message is

```
10 POKE 24,37
        :REM DISABLE LINE NUMBERS
20 LIST 50-90
        :REM OUTPUT MESSAGE
30 POKE 24,27
      :REM ENABLE LINE NUMBERS
40 END
50 MESSAGE STARTS HERE
...
90 END OF MESSAGE
```

For the C16 and the + just replace lines 10 and 30

```
10 POKE 22,35
        :REM DISABLE LINE NUMBERS
30 POKE 22,25
        :REM ENABLE LINE NUMBERS
```

You can of course have as many message as you like; the important thing to remember is that the program must not run into them.

It is not a good idea to just disable line numbers at the beginning of the program and leave them disabled, as the way the POKE works is by fooling the string handling routines into thinking that there is no more string stack left. So you will find the POKE will affect ALL string handling not just the output of numbers!

One word of warning before you rush over to your machine and change all those PRINT statements, LIST is not among the commands affected by RENUMBER, try adding the line

```
35 GETKEY A$
```

and then renumber the program. Only COLLISION, GOTO, GOSUB, RUN, RESTORE, RESUME and TRAP are affected RENUMBER.

Still if you plan your programs properly, with all the messages near the top, you can get a lot of mileage out of this POKE command.

COCKROACH TURBO-ROM

For the Commodore 64 or SX64 and 128 and 5070, 1570, 1571 and 1541 Disk Drives

The COCKROACH TURBO-ROM is an enhanced kernal ROM which may be installed in place of the original kernal ROM.

In order to provide these enhancements, some extra room was required within the ROM and the easiest way to obtain the extra space was to leave out some of the existing code. All of the cassette and RS232 functions are therefore not available in TURBO-ROM mode but the COCKROACH TURBO-ROM also contains the original kernal with a switch, accessible from outside the computer, to select which kernal is to be used.

TURBO-ROM will function properly with additional serial devices, e.g. printer or second drive with a different device number. Compatibility is also maintained with the VIC-SWITCH NETWORK.

INSTALLATION

Installation is very simple. The old kernal ROM is unplugged and the TURBO-ROM module is plugged in with the switch protruding through an aperture in the rear of the computer casing.

The enhancements provided are primarily for disk users because there is no cassette facility when switched to TURBO mode.

This type of loading instruction is often seen on commercial software. Simply press * followed by (RTN) and LOAD":*",8,1 will appear on the screen and the 1st program on the disk will be loaded.

SHIFT-RUN/STOP

If you have a directory listing on the screen, simply move the cursor to the program to be loaded, hold down the SHIFT key and press RUN/STOP. LOAD will appear before the program name and ,8,1 will appear after the name.

There are a number of very useful other features which we found all matched Cockroaches claim. Turbo-Rom come with easily understandable documentation. It is an excellent product and at £19.95 very recommendable indeed.

LOADING, VERIFYING and SAVING are all speeded up by a factor of around 5.

To SAVE WITH REPLACE, TURBO-ROM will automatically scratch the old file and then resave the new file. This means that save with replace will work on a disc which has only a few blocks free (provided that the new program is not larger than the old program plus the number of free blocks). If wildcards are used the original slow save is executed and a normal save is available using SAVE"   prog name",8 (RTN).

SCREEN DUMP

To get a print-out of the screen at any time (even during program execution), you simply hold down the COMMODORE key and hit F). If HI-RES or multicolour screens are present this feature is disabled.

LOAD"*",8,1

DEX/HEX CHART

To program machine code successfully or to get accurate memory addresses, you need to be able to convert decimal numbers into hexadecimal. This neat little program by M. Weston makes this far easier.

He wanted a hard copy of the 'Decimal-Hexadecimal Interconversion Table' in Raeto West's book 'Programming the PET/CBM' so he decided to write a program to print on screen or printer. It should work on any Commodore computer and prints well on an MPS 801 printer.

```
                       DECIMAL - HEXADECIMAL CONVERSION CHART
 ------------------------------------------------------------------------------
|      Low    High  |       Low   High  |       Low   High  |       Low   High |
| Hex  Dec.   Dec.  | Hex   Dec.  Dec.  | Hex   Dec.  Dec.  | Hex   Dec.  Dec. |
|-------------------|-------------------|-------------------|------------------|
| $00 |  0 |     0  | $40 |  64 | 16384 | $80 | 128 | 32768 | $C0 | 192 | 49152|
| $01 |  1 |   256  | $41 |  65 | 16640 | $81 | 129 | 33024 | $C1 | 193 | 49408|
| $02 |  2 |   512  | $42 |  66 | 16896 | $82 | 130 | 33280 | $C2 | 194 | 49664|
| $03 |  3 |   768  | $43 |  67 | 17152 | $83 | 131 | 33536 | $C3 | 195 | 49920|
| $04 |  4 |  1024  | $44 |  68 | 17408 | $84 | 132 | 33792 | $C4 | 196 | 50176|
| $05 |  5 |  1280  | $45 |  69 | 17664 | $85 | 133 | 34048 | $C5 | 197 | 50432|
| $06 |  6 |  1536  | $46 |  70 | 17920 | $86 | 134 | 34304 | $C6 | 198 | 50688|
| $07 |  7 |  1792  | $47 |  71 | 18176 | $87 | 135 | 34560 | $C7 | 199 | 50944|
| $08 |  8 |  2048  | $48 |  72 | 18432 | $88 | 136 | 34816 | $C8 | 200 | 51200|
| $09 |  9 |  2304  | $49 |  73 | 18688 | $89 | 137 | 35072 | $C9 | 201 | 51456|
| $0A | 10 |  2560  | $4A |  74 | 18944 | $8A | 138 | 35328 | $CA | 202 | 51712|
| $0B | 11 |  2816  | $4B |  75 | 19200 | $8B | 139 | 35584 | $CB | 203 | 51968|
| $0C | 12 |  3072  | $4C |  76 | 19456 | $8C | 140 | 35840 | $CC | 204 | 52224|
| $0D | 13 |  3328  | $4D |  77 | 19712 | $8D | 141 | 36096 | $CD | 205 | 52480|
| $0E | 14 |  3584  | $4E |  78 | 19968 | $8E | 142 | 36352 | $CE | 206 | 52736|
| $0F | 15 |  3840  | $4F |  79 | 20224 | $8F | 143 | 36608 | $CF | 207 | 52992|
| $10 | 16 |  4096  | $50 |  80 | 20480 | $90 | 144 | 36864 | $D0 | 208 | 53248|
| $11 | 17 |  4352  | $51 |  81 | 20736 | $91 | 145 | 37120 | $D1 | 209 | 53504|
| $12 | 18 |  4608  | $52 |  82 | 20992 | $92 | 146 | 37376 | $D2 | 210 | 53760|
| $13 | 19 |  4864  | $53 |  83 | 21248 | $93 | 147 | 37632 | $D3 | 211 | 54016|
| $14 | 20 |  5120  | $54 |  84 | 21504 | $94 | 148 | 37888 | $D4 | 212 | 54272|
| $15 | 21 |  5376  | $55 |  85 | 21760 | $95 | 149 | 38144 | $D5 | 213 | 54528|
| $16 | 22 |  5632  | $56 |  86 | 22016 | $96 | 150 | 38400 | $D6 | 214 | 54784|
| $17 | 23 |  5888  | $57 |  87 | 22272 | $97 | 151 | 38656 | $D7 | 215 | 55040|
| $18 | 24 |  6144  | $58 |  88 | 22528 | $98 | 152 | 38912 | $D8 | 216 | 55296|
| $19 | 25 |  6400  | $59 |  89 | 22784 | $99 | 153 | 39168 | $D9 | 217 | 55552|
| $1A | 26 |  6656  | $5A |  90 | 23040 | $9A | 154 | 39424 | $DA | 218 | 55808|
| $1B | 27 |  6912  | $5B |  91 | 23296 | $9B | 155 | 39680 | $DB | 219 | 56064|
| $1C | 28 |  7168  | $5C |  92 | 23552 | $9C | 156 | 39936 | $DC | 220 | 56320|
| $1D | 29 |  7424  | $5D |  93 | 23808 | $9D | 157 | 40192 | $DD | 221 | 56576|
| $1E | 30 |  7680  | $5E |  94 | 24064 | $9E | 158 | 40448 | $DE | 222 | 56832|
| $1F | 31 |  7936  | $5F |  95 | 24320 | $9F | 159 | 40704 | $DF | 223 | 57088|
| $20 | 32 |  8192  | $60 |  96 | 24576 | $A0 | 160 | 40960 | $E0 | 224 | 57344|
| $21 | 33 |  8448  | $61 |  97 | 24832 | $A1 | 161 | 41216 | $E1 | 225 | 57600|
| $22 | 34 |  8704  | $62 |  98 | 25088 | $A2 | 162 | 41472 | $E2 | 226 | 57856|
| $23 | 35 |  8960  | $63 |  99 | 25344 | $A3 | 163 | 41728 | $E3 | 227 | 58112|
| $24 | 36 |  9216  | $64 | 100 | 25600 | $A4 | 164 | 41984 | $E4 | 228 | 58368|
| $25 | 37 |  9472  | $65 | 101 | 25856 | $A5 | 165 | 42240 | $E5 | 229 | 58624|
| $26 | 38 |  9728  | $66 | 102 | 26112 | $A6 | 166 | 42496 | $E6 | 230 | 58880|
| $27 | 39 |  9984  | $67 | 103 | 26368 | $A7 | 167 | 42752 | $E7 | 231 | 59136|
| $28 | 40 | 10240  | $68 | 104 | 26624 | $A8 | 168 | 43008 | $E8 | 232 | 59392|
| $29 | 41 | 10496  | $69 | 105 | 26880 | $A9 | 169 | 43264 | $E9 | 233 | 59648|
| $2A | 42 | 10752  | $6A | 106 | 27136 | $AA | 170 | 43520 | $EA | 234 | 59904|
| $2B | 43 | 11008  | $6B | 107 | 27392 | $AB | 171 | 43776 | $EB | 235 | 60160|
| $2C | 44 | 11264  | $6C | 108 | 27648 | $AC | 172 | 44032 | $EC | 236 | 60416|
| $2D | 45 | 11520  | $6D | 109 | 27904 | $AD | 173 | 44288 | $ED | 237 | 60672|
| $2E | 46 | 11776  | $6E | 110 | 28160 | $AE | 174 | 44544 | $EE | 238 | 60928|
| $2F | 47 | 12032  | $6F | 111 | 28416 | $AF | 175 | 44800 | $EF | 239 | 61184|
| $30 | 48 | 12288  | $70 | 112 | 28672 | $B0 | 176 | 45056 | $F0 | 240 | 61440|
| $31 | 49 | 12544  | $71 | 113 | 28928 | $B1 | 177 | 45312 | $F1 | 241 | 61696|
| $32 | 50 | 12800  | $72 | 114 | 29184 | $B2 | 178 | 45568 | $F2 | 242 | 61952|
| $33 | 51 | 13056  | $73 | 115 | 29440 | $B3 | 179 | 45824 | $F3 | 243 | 62208|
| $34 | 52 | 13312  | $74 | 116 | 29696 | $B4 | 180 | 46080 | $F4 | 244 | 62464|
| $35 | 53 | 13568  | $75 | 117 | 29952 | $B5 | 181 | 46336 | $F5 | 245 | 62720|
| $36 | 54 | 13824  | $76 | 118 | 30208 | $B6 | 182 | 46592 | $F6 | 246 | 62976|
| $37 | 55 | 14080  | $77 | 119 | 30464 | $B7 | 183 | 46848 | $F7 | 247 | 63232|
| $38 | 56 | 14336  | $78 | 120 | 30720 | $B8 | 184 | 47104 | $F8 | 248 | 63488|
| $39 | 57 | 14592  | $79 | 121 | 30976 | $B9 | 185 | 47360 | $F9 | 249 | 63744|
| $3A | 58 | 14848  | $7A | 122 | 31232 | $BA | 186 | 47616 | $FA | 250 | 64000|
| $3B | 59 | 15104  | $7B | 123 | 31488 | $BB | 187 | 47872 | $FB | 251 | 64256|
| $3C | 60 | 15360  | $7C | 124 | 31744 | $BC | 188 | 48128 | $FC | 252 | 64512|
| $3D | 61 | 15616  | $7D | 125 | 32000 | $BD | 189 | 48384 | $FD | 253 | 64768|
| $3E | 62 | 15872  | $7E | 126 | 32256 | $BE | 190 | 48640 | $FE | 254 | 65024|
| $3F | 63 | 16128  | $7F | 127 | 32512 | $BF | 191 | 48896 | $FF | 255 | 65280|
 ------------------------------------------------------------------------------
```

PLUS /4

PART II

Yet more on the Plus/4 for the insatiable readers of CCI and fans of the Cinderella machine. I have compiled the memory map of the PLUS/4 from a variety of sources and whereas most I have seen are inaccurate or so full of holes, they would qualify for a swiss cheese award, this cap is based on information to hand in early March 1986. I have used the Commodore lables for memory locations and would ask readers bear with me on the odd locations that have no explanation as to purpose. I will have these annotated after further research. A lot of location bit settings perform inthe same way as those onthe C64, so some familiarity with this machine's architecture will be of value. Note that C16 addresses will be functionally identical although please do not hold me to that since I do not have a C16. There is perhaps even more similarity with the C128, but beware that a lot of locations do not line up in terms of the map, although the functions will be identical. In the coming months I'll be looking at those locations that are either unusual or specific to the PLUS/4.

Label	Address		Description
DEJAVU	0508	1288	pointer to reset status (cold or warm start)
LAT	0509-0512	1289-1298	Table of logical file numbers
FAT	0513-051C	1299-1308	Table of primary device numbers
SAT	051D-0526	1309-1318	Table of secondary addresses
KEYD	0527-0530	1319-1328	IRQ keyboard buffer
MEMSTR	0530-0532	1329-1330	Start of memory
MSIZ	0533-0534	1331-1332	Top of memory
TIMOUT	0535	1333	Flag for IEEE timeout
FILEND	0536	1334	File end reachd 0=no 1=yes
CTALLY	0537	1335	Number of characters left in buffer for read/write
CBUFVA	0538	1336	Number of total valid characters in buffer for read
TPTR	0539	1337	Pointer to next character in buffer
FLTYPE	053A	1338	Pointer to type of current cassette file
COLOR	053B	1339	Active attribute byte
FLASH	053C	1340	Flag for character flash
FREE	053D	1341	For users purposes
HIBASE	053E	1342	Base location of screen top
XMAX	053F	1343	Keyboard buffer size
RPTFLG	0540	1344	Flag for key repeats $80 = $40= none
KOUNT	0541	1345	Key repeat counter
DELAY	0542	1346	Key repeat delay
SHFLAG	0543	1347	Shift flag byte
LSTSHF	0544	1348	Last shift pattern
KEYLOG	0545-0546	1349-1350	Vector for keyboard table structure
MODE	0547	1351	Flag for text or graphics lockout mode
AUTDDN	0548	1352	flag for auto scroll 0=on
LINTMP	0549	1353	Screen work values
RDLFLG	054A	1354	Screen work values
FORMAT	054B	1355	Monitor non zero-page storage
MSAL	054C-054E	1356-1358	Unknown at time of compilation
WRAP	054F	1359	Unknown at time of compilation
TMPC	0550	1360	Unknown at time of compilation
DIFF	0551	1361	Unknown at time of compilation
PC	0552-0553	1362-1363	Processor register: Program counter
FLGS	0554	1364	Processor register: Status Register
ACC	0555	1365	Processor register : Accumulator
XR	0556	1366	Processor register: X Register
YR	0557	1367	Processor register: Y Register
SP	0558	1368	Processor register: Stack Pointer
INVL	0559	1369	Unknown at time of compilation
INVH	055A	1370	Unknown at time of compilation
CMPFLG	055B	1371	Used by various monitor routines
BAD	055C	1372	Tape input error log
KYNDX	055D	1373	Programmable function keys index
KEYIDX	055E	1374	Pointer for programmable funtion keys
KEYBUF	055F-0566	1375-1382	Table of programmable function keys length
PKYBUF	0567-05E6	1383-1510	Programmable function keys storage area
KDATA	05E7-05EB	1511-1515	used by speech cartridge (defunct)
PAT	05EC-05EF	1516-1519	Physical address table (ROM ID table)
LNGJMP	05F0-05F1	1520-1521	Long jump address
FETARG	05F2	1522	Long jump accumulator
FETXRG	05F3	1523	Long jump X register
FETSRG	05F4	1524	Long jump status register
AREAS	05F5-065D	1525-1629	REserved RAM for banking
ASPECH	065E-06EB	1630-1771	Reserved RAM for speech cartridge (defunct)
STKTOP	06EC-07AF	1772-1967	BASIC runtime stack
WROUT	07B0	1968	Byte to be written to tape
PARITY	07B1	1969	Temporary storage for parity calculation
TT1	07B2	1970	Temporary storage for write header
TT2	07B3-07B4	1971-1972	Temporary storage for write header
RDBITS	07B5	1973	Local index to READBYTE routine
ERSP	07B6	1974	Pointer into the error stack
FPERRS	07B7	1975	Number of first pass error
DSAMP1	07B8-07B9	1976-1977	Time constant
DSAMP2	07BA-07BB	1978-1979	Time constant
ZCELL	07BC-07BD	1980-1981	Time constant
SRECOV	07BE	1982	Stack marker for stopkey recovery
DRECOV	07BF	1983	Stack marker for dropkey recovery
TRSAVE	07C0-07C3	1984-1987	Parameters passed to RDBLOCK
RDETMP	07CA	1988	Temporary status save for RDBLOCK
LDRSCN	07C5	1989	Number of consecutive short blocks in tape leader
CDERRM	07C6	1990	Number of fatal errors in read countdown
VSAVE	07C7	1991	temporary storage for VERIFY command
T1PIPE	07CB-07CB	1992-1995	Temporary storage for T1
ENEXT	07CC	1996	Read error propagate
UOUTQ	07CD	1997	RS232 user character to tranmit
UOUTFG	07CE	1998	RS232 flag for user char transmit buffer 0= empty 1=full
SOUTQ	07CF	1999	RS232 system character to transmit
SOUNFG	07D0	2000	RS232 flag for system char transmit buffer 0=empty 1=full
INQFPT	07D1	2001	RS232 pointer to front of input queue
INQRPT	07D2	2002	RS232 pointer to rear of input queue
INQCNT	07D3	2003	RS232 number of characters in input queue

ASTAT	07D4	200	4RS232 temporary storage for 6551 AC1A status
AINTMP	07D5	2005	RS232 Temporary storage for input routine
ALSTOP	07D6	2006	RS232 fflag for local pause
ARSTOP	07D7	2007	RS232 flag for remote pause
APRES	07D8	2008	RS232 flag to indicate presence of ACIA
KLUDES	07D9-07E4	2009-2020	Indirect for downloaded routine
SCBOT	07E5	2021	Current screen bottom margin
SCTOP	07E6	2022	Current screen top margin
SCLF	07E7	2023	Current screen left margin
SCRT	07E8	2024	Current screen right margin
SCRDIS	07E9	2025	Screen scroll enabled 0= on
INSFLG	07EA	2026	Auto9 insert enabled $FF=on
LSTCHR	07EB	2027	Last character printed
LOGSCR	07EC	2028	Current colour attributes
TCOLOR	07ED	2029	Current colour attributes
BITABL	07EE-07F1	2030-2033	Table for screen line wrap

ZCELL	07BC-07BD	1980-1981	Time constant
SRECOV	07BE	1982	Stack marker for stopkey recovery
DRECOV	07BF	1983	Stack marker for dropkey recovery
TRSAVE	07C0-07C3	1984-1987	Parameters passed to RDBLOCK
RDETMP	07CA	1988	Temporary status save for RDBLOCK
LDRSCN	07C5	1989	Number of consecutive short blocks in tape leader
CDERRM	07C6	1990	Number of fatal errors in read countdown
VSAVE	07C7	1991	temporary storage for VERIFY command
T1PIPE	07CB-07CB	1992-1995	Temporary storage for T1
ENEXT	07CC	1996	Read error propagate
UOUTQ	07CD	1997	RS232 user character to tranmit
UOUTFG	07CE	1998	RS232 flag for user char transmit buffer 0+ empty 1+full
SOUTQ	07CF	1999	RS232 system character to transmit
SOUNFG	07D0	2000	RS232 flag for system char transmit buffer 0+empty 1+full
INQFPT	07D1	2001	RS232 pointer to front of input queue
INQRPT	07D2	2002	RS232 pointer to rear of input queue
INQCNT	07D3	2003	RS2323 number of characters in input queue
ASTAT	07D4	2004	RS232 temporary storage for 6551 AC1A status
AINTMP	07D5	2005	RS232 Temporary storage for input routine
ALSTOP	07D6	2006	RS232 fflag for local pause
ARSTOP	07D7	2007	RS232 flag for remote pause
APRES	07D8	2008	RS232 flag to indicate presence of ACIA
KLUDES	07D9-07E4	2009-2020	Indirect for downloaded routine
SCBOT	07E5	2021	Current screen bottom margin
SCTOP	07E6	2022	Current screen top margin
SCLF	07E7	2123	Current screen left margin
SCRT	07E8	2124	Current screen right margin
SCRDIS	07E9	2025	Screen scroll enabled 0+ on
INSFLG	07EA	2026	Auto insert enabled $FF+on
LSTCHR	07EB	2027	Last character printed
LOGSCR	07EC	2028	Current colour attributes
TCOLOR	07ED	2029	Current colour attributes
BITABL	07EE-07F1	2030-2033	Table for screen line wrap

SAREG	07F2	2034	SYS command: accumulator
SXREG	07F3	2035	SYS command: X register
SYREG	07F4	2136	SYS command: Y register
SPREG	07F5	2037	SYS command: stack pointer
LSTX	07F6	2038	New key detect

STPDSB	07F7	2039	Flag to disable CTRL-S pause
RAMROM	07F8	2040	Most significant bit for monitor fetches 0 +RAM 1 +ROM
COLSW	07F9	2041	Most significant bit for colour /luminance 0+RAM 1+ ROM
VMBMSK	07FB	2043	VM base mask for split-screen
LSEM	07FC	2044	Motor lock semaphore for cassette unit
PALCNT	07FD	2045	PAL time-of-day counte
FREE	07FE-07FF	2046-2047	For users purposes
TEDATR	0800-0BFF	3072-4095	Colour memory
TEDSCN	0C00-0FFF	3072-4095	Screen memory
BASBGN	1000-FFFF	4096-65535	Start of BASIC text
GRBASE	2000-FFFF	8192-65535	Start of BASIC when graphics on
BMLUM	1800-1BFF	6144-7167	Luminance for bit-map screen
BMCOLOR	1C00-1FFF	7168-8191	Colour for bit-map screen
CHRBAS	D00-D7FF	53248-55395	Character ROM

Multiply defined area No.5 - Graphics shapes and movement routines work area.

PHLDER	02CC	716	Placeholder
KEYLEN	02CD	717	Pointer to lenght
KEYNXT	02CE	718	Pointer to next lenght
STRSZ	02CF	719	String length
GETTYP	02D0	720	Shape mode set or replace
STRPTR	02D1	721	Pointer to position in string
OLDBYT	02D2	722	Old bit-map byte
NEWBYT	02D3	723	New bit-map byte
PHDER	02D4	724	Placeholder
XSIZE	02D5-02D6	725-726	Column width (X width) of a shape
YSIZE	02D7-02D8	727-728	Line number (Y lenght) of a shape
XSAVE	02D9-02DA	729-730	Temporary storage for the column width
STRADR	02DB-02DC	731-732	Pointer to the shape string for shape storage
BITTDX	02DD	733	Bit pointer to byte of shape string
SAVSIZ	02DE-02E1	734-737	Temporary work locations
CHRPAG	02E4	740	High byte of characer ROM for CHAR
BITCNT	02E5	741	Temporary storage for bit counter GSHAPE instruction
SCALEM	02E6	742	Pointer for screen scaling 0=320*200 1=1024*1024
WIDTH	02E7	743	Temporary storage for double width
FILFLG	02E8	744	Temporary storage for box fill
BITMSK	02E9	745	Temporary storage for bit masks
NUMCNT	02EA	746	Temporary counter for numerical values
TRCFLG	02EB	747	Temporary counter for trace mode on/off
T3	02EC	748	Dicectory work area
T4	02ED-02EE	749-750	Directory work area
VTEMP3	02EF	751	Temporary storage for graphic values
VTEMP4	02F0	752	Number of graphic parameters
VTEMP5	02F1	753	Parameter descriptor 0=absolute relative

ADRAY1	02F2-02F3	754-755	Pointer to floating point to integer convert routine
ADRAY2	02F4-02F5	756-757	Pointer to integer to floating point convert routine
FREE	02F6-02FD	758-765	Free for user purposes
BNKVEC	02FE-02FF	766-767	Vector for function cartridge users
IERROR	0300-0301	768-769	Vector for indirect error (output error in X)
IMAIN	0302-0303	770-771	Vector for read or excute BASIC line

Re-bouncing Ball

When we printed a program for the infamous Bouncing Ball — AMIGA style to run on the C64 in our June issue, we didn't forsee any problems. Ah! Who's law is it that says 'If something can go wrong it will'? Well, we had run the disk that Jeremy Hall created and it checked out fine. But in the print-out that came with it there were some very unclear letters that some helpful person (when we find him he will be speaking in a high voice!) corrected even more unclearly . . . So some readers had problems, for which we humbly apologise. To ensure that we make up for it we got it checked *again* by Ian Bennett (blessed be his name!) whose missive we append below.

"I had to beat the wife last night to get her to read out the bouncing ball listing so that I could type it in. So if you get a poison pen letter it may just happen to have a Hampshire postmark!

Now down to the important stuff. The listing is now 100% and I hope it will prove a little less exasperating to those wonderful CCI readers. There is however one small bug in the program although I don't forsee it causing any complaints. The ball gradually creeps off the bottom of the screen. I estimate that it would take about one hour to lose half of the ball.

By the way, my wife is so fed up with the words 'bouncing' and 'ball' that she insists any further queries should be sent to her cousin: N. Lawson, 11 Downing Street, London."

```
10 REM
20 REM
30 REM
40 REM
50 REM
60 GOTO 130
70 REM HEX TO DEC SUBROUTINE
80 A1=ASC(RIGHT$(A$,1)):A2=ASC(LEFT$(A$,1))
90 A1=A1-48+(7*(A1>64))
100 A2=A2-48+(7*(A2>64))
110 A=A1+(A2*16)
120 RETURN
130 PRINTCHR$(147);"... WORKING HARD..."
140 L=15360
150 FORX=0TO38:T=0:FORY=0TO14
160 READ A:POKE L,A:L=L+1:T=T+A:NEXT
170 READ A:T=T-(INT(T/256)*256)
180 IF T<>A THEN PRINT"DATA ERROR IN LINE"1010+(X*10)"CHECKSUM <>"A:STOP
190 PRINT1010+(X*10)"OK":NEXT
200 L=16384
210 FORX=0TO49:T=0:FORY=0TO14
220 READ A:POKE L,A:L=L+1:T=T+A:NEXT
230 READ A:T=T-(INT(T/256)*256)
240 IF T<>A THEN PRINT"DATA ERROR IN LINE"1410+(X*10)"CHECKSUM <>"A:STOP
250 PRINT1410+(X*10)"OK":NEXT
260 SYS 16384
1000 REM SPRITE DATA FIRST
1010 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,002, 002
1020 DATA 000,000,009,000,000,037,000,000,151,000,002,087,000,009,095, 134
1030 DATA 000,041,127,000,037,254,000,165,254,000,151,250,000,151,250, 144
1040 DATA 002,159,234,002,095,234,002,095,234,002,095,233,002,095,233, 181
1050 DATA 002,095,233,000,000,002,118,000,151,158,041,126,122,151,249, 168
1060 DATA 122,095,165,250,126,151,250,250,087,234,234,095,234,233,095, 061
1070 DATA 234,165,127,170,165,127,170,149,127,170,149,127,170,149,255, 150
1080 DATA 170,085,255,170,085,255,170,085,254,170,085,254,170,087,254, 245
1090 DATA 170,087,254,170,087,254,170,095,110,064,000,121,233,000,094, 117
1100 DATA 126,148,094,159,233,095,165,250,095,233,126,087,234,095,087, 179
1110 DATA 250,087,087,250,151,085,254,165,085,254,165,085,254,169,085, 122
1120 DATA 254,169,085,255,169,085,255,170,085,255,170,085,127,170,085, 115
1130 DATA 127,170,085,127,234,085,127,234,085,127,234,095,000,000,000, 194
1140 DATA 000,000,000,000,000,000,000,000,000,000,000,000,144,000,000, 144
1150 DATA 164,000,000,233,000,000,234,064,000,250,144,000,254,148,000, 211
1160 DATA 127,164,000,127,165,000,095,233,000,095,233,000,087,249,064, 103
1170 DATA 087,250,064,087,250,064,151,250,064,151,250,064,151,250,064, 149
1180 DATA 000,002,095,233,002,095,233,002,095,233,002,095,234,002,095, 138
1190 DATA 234,002,159,234,000,151,250,000,151,250,000,165,254,000,037, 095
1200 DATA 254,000,041,127,000,009,095,000,002,087,000,000,151,000,000, 254
1210 DATA 037,000,000,009,000,000,002,000,000,000,000,000,000,000,000, 048
1220 DATA 000,000,000,000,000,087,254,170,087,254,170,087,254,170,085, 082
1230 DATA 254,170,085,254,170,085,255,170,085,255,170,149,255,170,149, 116
1240 DATA 127,170,149,127,170,165,127,170,165,127,170,233,095,234,234, 159
1250 DATA 095,234,250,087,234,126,151,250,095,165,250,151,249,122,041, 196
1260 DATA 126,122,000,151,158,000,002,118,095,085,127,234,085,127,234, 128
1270 DATA 085,127,234,085,127,170,085,127,170,085,255,170,085,255,170, 182
1280 DATA 085,255,169,085,254,169,085,254,169,085,254,165,085,254,165, 229
1290 DATA 087,250,151,087,250,087,087,234,095,095,233,126,095,165,250, 244
1300 DATA 094,159,233,094,126,148,121,233,000,110,064,000,095,151,250, 086
1310 DATA 064,151,250,064,151,250,064,087,250,064,087,250,064,087,249, 084
```

```
1320 DATA 064,095,233,000,095,233,000,127,165,000,127,164,000,254,148,  169
1330 DATA 000,250,144,000,234,064,000,233,000,000,164,000,000,144,000,  209
1340 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,  000
1350 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,  000
1360 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,  000
1370 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,  000
1380 DATA 000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,  000
1390 DATA 000,000,000,000,000,000,255,000,000,000,000,000,000,000,000,  255
1400 REM NOW THE PROGRAM DATA
1410 DATA 169,247,162,255,142,032,208,142,033,208,162,007,157,248,007,  131
1420 DATA 056,233,001,202,016,247,162,000,189,106,066,240,006,032,210,  230
1430 DATA 255,232,208,245,160,021,162,000,189,150,066,240,006,032,210,  128
1440 DATA 255,232,208,245,136,016,240,162,000,189,191,066,240,006,032,  170
1450 DATA 210,255,232,208,245,169,064,141,000,212,169,002,141,001,212,  213
1460 DATA 169,010,141,005,212,141,006,212,169,085,141,022,212,169,241,  143
1470 DATA 141,023,212,169,031,141,024,212,162,015,189,238,064,157,000,  242
1480 DATA 208,202,016,247,160,007,162,014,189,238,064,157,254,064,169,  103
1490 DATA 000,157,255,064,189,239,064,153,014,065,136,202,202,016,234,  198
1500 DATA 169,000,141,041,065,141,042,065,141,043,065,162,007,169,004,  231
1510 DATA 157,039,208,202,016,250,169,255,141,023,208,141,028,208,141,  138
1520 DATA 021,208,120,169,047,141,020,003,169,065,141,021,003,169,004,  021
1530 DATA 141,045,065,141,046,065,169,001,141,026,208,173,017,208,041,  207
1540 DATA 127,141,017,208,169,000,141,018,208,169,255,141,025,208,169,  204
1550 DATA 000,141,014,220,088,076,215,064,024,105,001,201,007,208,002,  086
1560 DATA 169,004,096,056,233,001,201,003,208,002,169,006,096,096,050,  110
1570 DATA 120,050,144,050,168,050,096,092,120,092,144,092,168,092,196,  138
1580 DATA 000,220,000,244,000,012,001,196,000,220,000,244,000,012,001,  126
1590 DATA 075,075,075,075,117,117,117,117,000,001,002,002,003,003,004,  015
1600 DATA 005,005,006,007,007,008,008,009,010,010,011,012,000,000,009,  107
1610 DATA 136,006,001,174,046,065,202,142,046,065,208,077,169,002,141,  200
1620 DATA 046,065,173,041,065,240,035,173,045,065,141,038,208,032,228,  059
1630 DATA 064,141,037,208,032,228,064,162,007,157,039,208,202,016,250,  023
1640 DATA 173,045,065,032,228,064,141,045,065,024,144,032,173,045,065,  061
1650 DATA 162,007,157,039,208,202,016,250,032,218,064,141,037,208,032,  237
1660 DATA 218,064,141,038,208,173,045,065,032,218,064,141,045,065,162,  143
1670 DATA 014,173,041,065,048,023,024,189,254,064,105,004,157,254,064,  199
1680 DATA 189,255,064,105,000,157,255,064,202,202,016,235,048,021,056,  077
1690 DATA 189,254,064,233,004,157,254,064,189,255,064,233,000,157,255,  068
1700 DATA 064,202,202,016,235,162,007,172,043,065,173,042,065,048,032,  248
1710 DATA 024,189,014,065,121,022,065,157,014,065,202,016,243,200,140,  001
1720 DATA 043,065,192,020,208,036,032,090,066,206,043,065,206,042,065,  099
1730 DATA 048,025,056,189,014,065,249,022,065,157,014,065,202,016,243,  150
1740 DATA 136,140,043,065,016,006,238,043,065,238,042,065,173,254,064,  052
1750 DATA 201,240,208,008,032,090,066,206,041,065,048,010,201,024,208,  112
1760 DATA 006,032,090,066,238,041,065,162,015,189,254,064,240,007,056,  245
1770 DATA 046,044,065,024,144,004,024,046,044,065,202,202,016,236,160,  042
1780 DATA 007,162,014,189,254,064,157,000,208,185,014,065,157,001,208,  149
1790 DATA 136,202,202,016,239,173,044,065,141,016,208,169,129,141,025,  114
1800 DATA 208,173,017,208,041,127,141,017,208,169,000,141,018,208,076,  216
1810 DATA 049,234,169,129,141,004,212,169,128,141,004,212,169,129,141,  239
1820 DATA 004,212,096,147,176,192,178,192,178,192,144,087,082,073,084,  245
1830 DATA 084,069,078,032,066,089,032,074,069,082,069,077,089,032,072,  246
1840 DATA 065,076,076,032,049,057,056,054,154,192,178,192,178,192,174,  189
1850 DATA 032,000,171,192,219,192,219,192,219,192,219,192,219,192,219,  109
1860 DATA 192,219,192,219,192,219,192,219,192,219,192,219,192,219,192,  253
1870 DATA 219,192,219,192,219,192,219,192,219,192,179,032,000,173,192,  071
1880 DATA 177,192,177,192,177,192,177,192,177,192,177,192,177,192,177,  200
1890 DATA 192,177,192,177,192,177,192,177,192,177,192,177,192,177,192,  215
1900 DATA 177,192,177,192,177,192,189,032,000,000,000,000,000,000,000,  048

READY.
```

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The Connect Game 128

Perhaps inspired by the title of our communications feature, N. Cook has created this very lively game for the 128. There are not many specially written games for the 128. It's fairly easy to type in and we hope you enjoy it.

```
10 REM ***************************
20 REM *         CONNECT         *
30 REM *  WRITTEN BY NICK COOK    *
40 REM *     FOR THE CBM 128     *
50 REM *                         *
60 REM ***************************
70 Q=0
80 DIMA$(2)
90 DIMY(6):DIMX(7)
100 DIMA(7,6)
110 DIMG(2):G(1)=8:G(2)=4
120 REM *
130 REM *  DATA CONTAINS X AND Y
140 REM *  CO-ORDINATES FOR EACH
150 REM *  ROW AND COLUMN
160 REM *
170 DATA62,137,87,112,112,87,137
180 DATA62,162,37,187,12,212
190 FORI=1TO7
200 READX(I)
210 IFI<>7THENREADY(I)
220 NEXTI
230 LISTO,1:LIST4,2:LIST1,2
240 WAIT2,1,21
250 =0,21,39,24
260 FORI=50TO225STEP25
270 PRINT1,I,150TOI,0
280 NEXTI
290 FORI=150TOOSTEP-25
300 PRINT1,50,ITO225,I
310 NEXTI
320 SAVE1,8,19,"1  2  3  4  5  6  7"
330 INPUT"FIRST PLAYER ENTER YOUR NAME";A$(1)
340 PRINT:PRINT"HELLO ";A$(1);" YOUR COLOUR IS YELLOW"
350 =3:CLRO
360 INPUT "SECOND PLAYER ENTER YOUR NAME";A$(2)
370 PRINT:PRINT"HELLO ";A$(2);" YOUR COLOUR IS BLUE"
380 =3:E=1
390 CLRO
400 PRINT"YOUR GO ";A$(E)
410 PRINT:INPUT"WHAT COLUMN";C$
420 IF C$<"1"ORC$>"7"THEN CLRO:PRINT"CAN'T DO THAT ";A$(E):GOTO410
430 C=VAL(C$):C$=""
440 GOSUB640:IFF=1THEN CLRO:PRINT"CAN'T DO THAT ";A$(E):GOTO410
450 GOSUB540
460 GOSUB750:IFF=1GOTO1330
470 IFE=1THENLETE=2:GOTOE=1
480 IFQ=42THEN1400
490 GOTO390
500 REM *
510 REM * THIS ROUTINE DRAWS AND
```

```
520 REM * PAINTS THE COUNTERS
530 REM *
540 LIST1,G(E)
550 DEF1,X(C),Y(P),8
560 LOAD1,X(C),Y(P)
570 A(C,P)=E:Q=Q+1
580 RETURN
590 REM *
600 REM * THIS ROUTINE CALCULATES
610 REM * THE Y CO-ORDINATE FOR
620 REM * THE COUNTER POSITION
630 REM *
640 F=0:P=1
650 OPEN
660 IFA(C,P)=0THENGET
670 P=P+1
680 IFP=7THENF=1
690 CLOSEORP=7
700 RETURN
710 REM *
720 REM * THIS ROUTINE WORKS OUT
730 REM * IF THE GAME HAS BEEN WON
740 REM *
750 F=0:S=C:T=P:Z=0
760 IFT<4THEN830
770 OPEN
780 IFA(S,T)<>ETHEN820
790 Z=Z+1
800 T=T-1
810 CLOSEORT=0
820 IFZ>3THENF=1:GOTO1320
830 S=C:T=P:Z=0
840 OPEN
850 IFA(S,T)<>ETHEN890
860 Z=Z+1
870 S=S-1
880 CLOSEORS=0
890 IFZ>3THENF=1:GOTO1320
900 S=C:T=P
910 Z=Z-1
920 OPEN
930 IFA(S,T)<>ETHEN970
940 Z=Z+1
950 S=S+1
960 CLOSEORS=8
970 IFZ>3THENF=1:GOTO1320
980 S=C:T=P:Z=0
990 OPEN
1000 IFA(S,T)<>ETHEN1050
1010 Z=Z+1
1020 S=S-1:T=T-1
1030 IFS=0ORT=0THENGET
1040 CLOSE
1050 IFZ>3THENF=1:GOTO1320
1060 S=C:T=P
1070 Z=Z-1
1080 OPEN
1090 IFA(S,T)<>ETHEN1140
1100 Z=Z+1
1110 S=S+1:T=T+1
1120 IFS=8ORT=7THENGET
```

```
1130 CLOSE
1140 IFZ>3THENF=1:GOTO1320
1150 S=C:T=P:Z=0
1160 OPEN
1170 IFA(S,T)<>ETHEN1220
1180 Z=Z+1
1190 S=S-1:T=T+1
1200 IFS=0ORT=7THENGET
1210 CLOSE
1220 IFZ>3THENF=1:GOTO1320
1230 S=C:T=P
1240 Z=Z-1
1250 OPEN
1260 IFA(S,T)<>ETHEN1310
1270 Z=Z+1
1280 S=S+1:T=T-1
1290 IFS=8ORT=0THENGET
1300 CLOSE
1310 IFZ>3THENF=1:GOTO1320
1320 RETURN
1330 CLRO
1340 PRINT"YOU HAVE WON ";A$(E)
1350 PRINT:INPUT"DO YOU WANT ANOTHER GAME (Y/N)";B$
1360 IFB$="Y"THENCLR:GOTO080
1370 =0,0,39,24,1
1380 WAITO:CLRO:CLR
1390 END
1400 CLRO
1410 PRINT"STALEMATE"
1420 GOTO1350

READY.
```

ERRATA!

The two errors below occurred on pages 68 and 69 of the April edition of CCI.

The are as follows:

Page 68. Line 10 of 'CLOCK' should have read:
CLR:DEF FNA(X)=X★(π/180)

Page 69. Line 30 of 'GLOBE' should have read:
FOR I =90 TO 0 STEP -10 :R=INT(90★SIN(I★(π/180)))

Both these errors were caused by the printer failing to correctly recognise the PI symbol. The printer in its wisdom decided it was 'delete last character'. This compounded the problem by also deleting the '('.

BASIC for begginners

PART VI

This month I want to look at two functions used quite often in BASIC programming, namely POKE and PEEK. The description of these given in your User Manual probably reads something like; these functions allow direct access to a memory location in order to read or change the value at the specified location. What does this mean? Perhaps the following may help you understand.

I always think of a machine's memory as being an eggbox. OK, after you have picked yourself off the floor and stopped thinking that we have finally flipped, read on. Consider an eggbox from the supermarket, it can contain 12 eggs which do not necessarily have to be the same size. For example you could have 3 hens eggs, 7 ostrich eggs and 2 sparrows eggs. Naturally, our eggbox is somewhat larger than usual in order to accommodate the ostrich eggs! The different eggs can represent different numerical values and since we have numbered each compartment in the eggbox, there are 12 positions where an egg can be placed. If you translate this eggbox concept into your own machine, the memory capacity is the size of the eggbox. So, my C64 and PLUS/4 have 65535 holes each, whilst my C128D has twice that, or 131,070 locations.

Now, let's get back to the eggs. I said that eggs from different birds can represent different numerical values. Therefore, an egg from the sparrow is quite small - a low numerical value, whilst the ostrich egg would represent the largest numeric value since this is the largest size that can be fitted in our eggbox. As far as your own machine is concerned, translating these numeric values into ACTUAL values, the range runs from 0 to 255. Thus our ostrich egg is valued at 255 and the sparrow's egg is valued at 0.

So, where are we? Our machine has a memory which is made up of a block of locations which are numbered from 0 upwards. Each location can hold a numeric value which ranges from 0 to 255.

Some of these locations are not open to the programmer in that the machine keeps them for its own use. These areas of memory are termed ROM meaning 'read only memory'. You can look at these locations, but not do anything to them in terms of changing the values there. An area of memory that is not restricted to the programmer is named RAM meaning 'random access memory'. To start twiddling with the locations BASIC provides the PEEK and POKE functions.

PEEK and POKE are self-explanatory, PEEK lets you look at a location whilst POKE allows you to place a new value in the specified location. Why bother with them, this seems all very tedious when I can use standard BASIC to do what I want, I hear you ask? Well the simple answer is related to the limitations of BASIC. I mentioned in the first part of this series that BASIC is a 'high level' language. This means that your dealings with the machine are as close to English as possible. A 'low level' language does not make these concessions to the programmer and the language used is far from clear to the casual reader.

There is a cost or overhead to using a high level language such as BASIC, this cost is time or program execution speed. The program you have entered in BASIC has to go through a process within your machine which is called interpretation. This process can extend to minutes rather than seconds in large BASIC programs and clearly such delays in some applications is unacceptable. For instance, if ELITE was written in BASIC, the time it took for your laser to actually fire after pressing the fire button would be such that you could probably go into the kitchen, make a cup of coffee, drink it and then wash, dry and put the cup back into the cupboard!

Low level languages such as assembler or C shorten the distance between the programmer and the machine and hence are able to execute a program much faster. PEEK and POKE allow the BASIC programmer to descend into the depths of the machine albeit under very controlled conditions. There are also two other functions which come into this category, SYS and USR. The former is much more common and we will be looking at both these and what they do.

PEEK a location is used mainly for two reasons, either to compare values or to check a value. For instance, your program may call for some kind of joystick interaction. The joystick when operated in a certain direction will change the value at a memory location. Since your machine has a variable amount of locations, depending on which computer it is, the actual location which is affected could well be different between each type of machine. That is, the location for detecting a forward movement on the joystick in Port 1 will not be the same on the PLUS/4 as the location to do the same on the C64. You now start to see the drawback of using PEEK. You HAVE TO KNOW THE MACHINE, in order to know where in memory to look for the change.

In answer to the question of how can I find out where these things are located in memory, you need what is called a Memory Map. This lists the locations and what each one is responsible for. The depth of detail provided on memory maps is extremely variable. By and large, those published by Commodore in your User Manual provide minimal detail. Try and get hold of a detailed memory map for your own machine and study it carefully. You should learn a lot about your machine this way.

The general structure for using PEEK looks like this:-

PEEK (n) where n is any number between 0 to 65535

This returns a decimal value and since the output is usually the screen the function is often linked to a PRINT statement.

POKE actually does something to the location. For example on the C64 and the C128 in 40 column mode if you put the decimal value of 3 into location 53280 you will see a change in the screen border colour. Similarly, on the C16 and PLUS/4 the equivalent location is 65305. You must be very careful using POKE unless you are certain as to the outcome. Just poking values into memory can result in a machine out of control, on the other hand it can be rewarding in terms of knowledge of the effects. You may even enter what is known as fireworks mode, don't worry, you'll know when you find it. Please be assured that you CANNOT do any harm to your machine using POKE and PEEK, I did hear some tale recently that a certain POKE could burn out a video circuit. 'Absolute rubbish' was my reply. In fact, I believe that little chestnut started back in the PET days where claims were made that the 6545 video controller could be popped by a certain POKE.

The general structure for using POKE looks like this:-

POKE (n1),(n2) where n1 and n2 are numeric values.

The numeric value n1 is ascribed to the address and n2 to the value to be placed there. Here is a simple program that employs both PEEK and POKE for the PLUS/4 and C16:-

```
10 SCNCLR
20 FOR A = 0 TO 39
30 POKE 3072 + A, PEEK(2048)
40 NEXT A
50 PRINT:PRINT
```

Let's walk through this program and see the effect. Line 10 clears the screen and line 20 sets a loop value of 40. Line 30 is where is starts to happen, remember the POKE has to have 2 numeric values to which the first value is the location to be poked, whilst the second number is the value to be poked into the location. In the above example the location starts at 3072 in memory which on the PLUS/4 and C16 is part of the screen display. That is, if you put a value at any memory location between 3072 and 4071 it will appear on the screen. Now, back to the example, the first part of the poke value is the screen location, the second value is made up of the value by peeking location 2048. Line 40 completes the loop and when this has done 40 iterations and we have moved to screen memory location 4012, the program drops through to line 50 which is simply the effect of pressing RETURN twice. This is to provide a clean visual finish, remember my comments of last month on program design! You'll see that memory location 4012 is the end of the top line on the screen display.

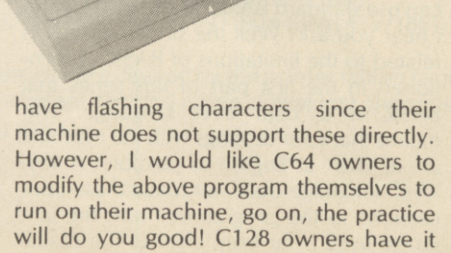
Location 2048 is the start of the memory locations for screen colours, so to make use of them, change the program into this:-

```
10 SCNCLR
20 FOR A = 0 TO 39
25 POKE 2048 + A, A + 200
30 POKE 3072 + A, PEEK(2048)
40 NEXT A
50 PRINT:PRINT
```

The flashing effect is caused by poking a value greater than 128 into screen colour memory. So, on line 25 during the first pass of the loop, the value poked into screen colour memory is 200 since A is equal to zero. This also means that the location selected is the start of colour memory, namely location 2048. On the second pass of line 25, the location is incremented by the loop variable A and since A is now equal to 1, the location becomes 2048 plus 1 which is 2049. The valued poked into 2049 becomes 201. Line 30 simply increments the screen location so the character displayed moves along by 1 up to screen location 4012 and pokes into each location the value from 2048 which is initially 200, as set on line 25. Make it a bit more interesting by changing line 30 to:-

```
30 POKE 3072 + A, PEEK(2048 + A)
```

Unfortunately C64 owners cannot have have flashing characters since their machine does not support these directly. However, I would like C64 owners to modify the above program themselves to run on their machine, go on, the practice will do you good! C128 owners have it even easier as all they have to do is slight modification to the addresses. The relevant memory location for the C64 and the C128 are:-



P4/C16	C64/C128	
3072	1024	screen memory
2048	55296	colour memory

Substitute these values for the C64 and C128 in 40 column mode. I'll move on now and look at two further functions that are related to POKE and PEEK, these are SYS and USR.

SYS is shorthand for 'system' and provides another link into the underlying structures of your machine. It takes the form:-

SYS address

This command instructs the machine to go to the address specified and start executing the machine code instructions from that point. As you become more proficient in BASIC you may want to start studying and ultimately progress to writing in assembler for program speed. The SYS function provides an interface to do this, because having placed your assembler code at a specified location in memory, you can call upon it using SYS. In fact, many other machines such the BBC series and AMSTRAD do use the syntax CALL for this function.

You are more likely to have come across SYS statements quite early on in your exploration, since you have probably learned the SYS call for a cold reset of your machine. When this is used the effect is similar to powering up your machine. For the benefit of readers who do not know this useful address, here it is for each machine:-

C16 SYS 62116
C64 SYS 64738
C128 SYS 16384
PLUS/4 SYS 62116

SYS calls and generally messing about with assembler is easiest on those machines that include a monitor and if you are venturing into this area the USR function could be of value. I always think of USR, which is shorthand for 'user', as the two-way street. For example, SYS is a one-way street since you call the location and usually the sequence of machine code does not hand you back to your program. USR will return you to your original environment, provided of course that your assembler code has ended on a RTS instruction, but USR also will also bring back parameters which have been placed in the processor registers according to your instructions.

This may sound a little out of your depth and there is an easier way for those who don't want to get involved in assembler yet and that is the DEF FN function. In the next part of the series we'll start exploring this very useful command and see how it relates to the USR function.

BILL DONALD

MOVIE SCENE

After hours

Ever wondered about Sartre's puzzle, "when is a cat not a cat?". The answer is when it disappears behind an armchair . . . is it still a cat or has it undergone some strange transformation once beyond our vision? And just what's really unleashed when our backs are turned? We're all just dying with curiosity to know . . . but look what *that* did to the cat! Martin Scorseses new film 'After Hours' serves as a warning against any notion you may harbour of straying into unknown territory.

'After Hours' is so wickedly comic it's almost sinful. For Paul Hackett (Griffin Dunne), a New York word processor operator suffering from terminal '9 to 5'-itis, an adventurous change of routine seems like a panacea . . . only he ends up with an overdose. One innocent action opens up a true Pandora's Box of chaos and mayhem.

Accepting a casual date leaves him down and out in SoHo . . . and facing mounting disaster on the scale of high Greek tragedy. Such a nice guy can only become the prey of the deranged and deviant. He is stranded amongst people about whom there's more of the crypt than the cryptic . . . the ones Mother always warned you about. All manner of riotous events occur around him while he's wrapped up (literally) in the 'New York Times'. His ensuing attempts to extricate himself from this comedy of terrors are hilarious.

The insanely comic diaglogue is given extra edge through the deadpan delivery of Teri Garr, Rosanna Arquette and the veterans, Cheech and Chong. It's the kind of acidic comedy that especially appeals to a twisted mind . . . I loved it!

Paul meets his match — or should I say mâché?

The Colour Purple

'The Colour Purple' should have been subtitled 'Great Expectations'. Combine a Pulitzer Prize-winner, an internationally best selling writer, today's most popular and successful director, then throw in public controversy and the Oscar debacle and you'll have hordes rushing to see it purely on curiosity value.

They won't be disappointed. It is simply a quite exceptional film. Spielberg claimed it to be 'the biggest challenge of his career' and he has pulled off a triumph worthy of his own celluloid superheroes. He is associated with projections of fantasy and imagination, but here energies are inverted, concentrating on spiritual and emotional growth. The film is a departure and he's set out on the journey well equipped with baggage from his previous successes. You can't blame him if en-route he encamps on familiar territory. 'The Colour Purple' had audiences cheering, booing and clapping as much as any of his tales of horror or adventure.

The film is emotive viewing. It's a southern American chronicle of courage and liberation. At its centre is Celie (an inspired performance by Whoopi Goldberg in her screen debut), a slave within an enslaved community, shackled and subjugated by ignorance, fear and brutality. Her brutish husband, 'Mr' (Danny Glover), is just as trapped, harnessed to almost feudal, unquestioned ideals. Escape is embodied for them both by Shug Avery (Margaret Avery), the out spoken blues singer propped up on a decidedly shaky pedestal, but determined to hang on.

Spielberg has the gift of adding shades of mystery and drama to simple everyday occurances. Vibrance and subtlety are interwoven in dealing with issues of rape, incest and injustice in the Southern black community.

Of the performers, the best known is Adolph Caesar (from 'A Soldiers Story') and considering so many of them are little known beyond US rep theatre, the high calibre of acting is impressive.

'The Colour Purple' was, as we all know, nominated for eleven Oscars. I'd have given it twelve.

S.G.

Scorn in the USA

MUSIC SCENE

'Datahits' reviewed by Leslie B. Bunder

If like me, you appreciate good music on your Commodore 64 when you hear it, you will be glad to know of a new release from Mupados entitled 'Datahits'. 'Datahits', is a 'special' compilation tape featuring the theme music from 5 of the hottest games released on the 64.

When I refer to it as being 'special', I mean it. 'Datahits', is not as you may think a tape to load on your 64, rather it is a stereo audio tape you can play on any normal tape recorder or personal stereo, in fact you won't even need to use your 64.

In order to compile 'Datahits', Mupados have taken the humble Commodore 64 into a recording studio and rigged it up with a host of various musical add-ons including the Commodore Music Studio and Tron Digidrum.

Mupados played music from a 64 game and transferred it onto studio quality ¼inch tape and then 'remixed' the music and put it into glorious technicolor stereo, a far cry from the mono sounds the 64 normally makes.

The 5 themes which have been put out as 'fantastic stereo dance-mix form' on the tape are 'Rambo', 'Never Ending Story', 'Ghostbusters', 'Crazy Comets' and 'Hypersports'.

Just listening to 'Ghostbusters' shows how much can be achieved from a 64, the music is so close to the original, that I think it could be hard to tell the difference between the two. All the riffs that made the song into a massive hit are contained on the computer version. The plodding synth, heavy drums and funky bass are all there and it's very well put together.

As a package, 'Datahits' is very good value for money and is highly recommended. You not only get the music (which lasts for over 25 minutes) but also included on the reverse side of the tape is a simple but effective Database called 'Software' which allows you to keep track of all your records or software that you may have.

'Datahits' by Mupados £4.99 and is only available through W. H. Smith.

Load and Go!

Load and Go is a new series which sets out to eliminate all the complex — and often disconcerting — documentation that many programs present. Neil Day judges its success.

I know I'm a bit late for the book launch, but in the Computer Game of the Ten Commandments I'm working on at the moment, there is going to be a touching exchange between Jehovah and Moses that runs like this:

J: Do you want these commandments in hard copy or on disk Moses?

M: Just chip them in stone for now, Lord, and send the disk when I've had time to get the hang of the new word processor. Which could take a long, long time...

For a new user, a wordprocessor, spreadsheet or other application programme is a daunting prospect. The degree of difficulty in getting started is often in direct proportion to the ultimate usefulness of the program. But this is of little consolation to a new user who gives up in disgust early on.

The programs reviewed here are a very helpful attempt to deal with this problem. They are taken from a series called "Load and Go" on some of the disks and "One Step" on others. The idea is that you do literally "load and go" as there are no manuals to leaf through. The programs are simple to use and supposed to be self-documenting with help files and detailed menus.

The software is inexpensive: £6-99 per disk, cassettes not available. This isn't a bad price considering that when I bought a single disk recently it cost me £1.40 blank!!!

Masterword

The advantage of the wordprocessor, "Masterword", is that an inexperienced user can produce a printed version of a short letter in minutes. The program includes commands to edit text in a line-orientated fashion, to load and file documents on disk, and to print documents on a CBM printer. In case your literary inspiration fails, there are about 30 letters on the program disk for the full range of correspondents from jilted lovers to bank managers!

The commands included have been selected so that the program has the bare minimum of features for a workable word processor. For example, when printing you can set the line spacing, page-length in lines, and top and bottom margins. However, sensible defaults are set for A4 paper.

Among the many things you can't do is alter the width of the text which is set at about 60 columns. In edit mode you can't cut and paste nor append files. Although there is a search function, you have to replace text by typing in. However, it is quite possible to get by with the available facilities which are equivalent to a restricted set of commands that a good instructor would introduce in the first few hours of tuition on a more elaborate word-processor.

Master Word would be a good investment for an inexperienced beginner looking for a practical application for the C64 or C128.

64 Utilities

Three programs are included on the "Commodore 64 Utilities" disk. "Disk Manager" gives a menu of standard disk commands (directory, erase, copy or rename files; validate or format a disk etc.) plus a sequential file reader to screen or CBM printer and the slowest disk to disk file copier I have yet to encounter (12 minutes for a 67 block file!!). The second program lists a file directory on a printer. Nothing very exciting here and having to load a basic program to perform these tasks is not very practical, especially when the DOS5.1 shell is available free and will co-exist with Basic and most other programmes.

The third program on this Utilities disk is more interesting. "Disk Master" is a cataloguing program that writes an archive list of all the files from a set of disks. Adding files to the archive is easy: you insert the appropriate disk and the programme simply reads the directory track. The program can then search out which disk contains any specified file. A directory of any disk in the catalogue can be viewed on the screen or printed on a CBM printer. At those tense moments when you are running out of disk space, the archive can be searched for disks with more than a specified number of blocks free.

Spreadsheet

The "Personal Spreadsheet" disk has a very simple spreadsheet program. It has limitations for real applications. For example, nearly all the main commands operate on only one cell. To percentage a column of figures you have to specify the base row and each cell separately, i.e. 8 figures have to be entered for percentaging four rows. Further, you can't select the columns to be percentaged: all columns in the spreadsheet are used. The spreadsheet handles numbers only, so no alphabetic headings can be included. The on-board instructions are very cryptic. Anyone competent enough to be able to run the spreadsheet on this limited documentation is likely to want something much, more sophisticated. But it could be useful for someone just starting out.

Family Tree

The "Family Tree" disk has a tailor-made data base for storing and retrieving information about members of your family. It works out who is related and how, and includes space for comments about each family member. Like the Cheque Book Balancer, which it resembles in many ways, it deals with only one record at a time, so be prepared for lots of disk accesses and a slow pace. Dates have to be entered in U.S. style with the month first. Also the year needs to be entered in full, a couple of tips that might save you quite a few minutes working things out!

Conclusions:

The objective of these disks is to make serious applications programs available in simplified form for beginners. The Personal Spreadsheet Master errs on the side of being too oversimplified for practical use. Also, it possibly lacks sufficient instructions to get a total beginner started. The Utilities disk contains some very useful material especially in the programme to catalogue disks, Disk Master. This may be slightly difficult for a complete novice, but would certainly be accessible after only a little experience.

The "Master Word" wordprocessor hits the ideal balance: it is a serious and useful application, but simple enough and well enough documented within the program for a complete beginner to handle. Recommended.

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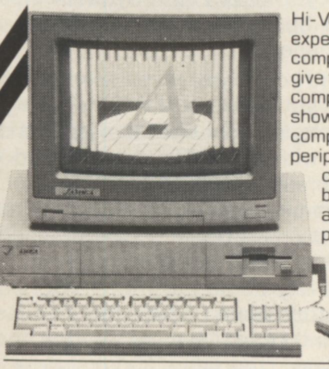

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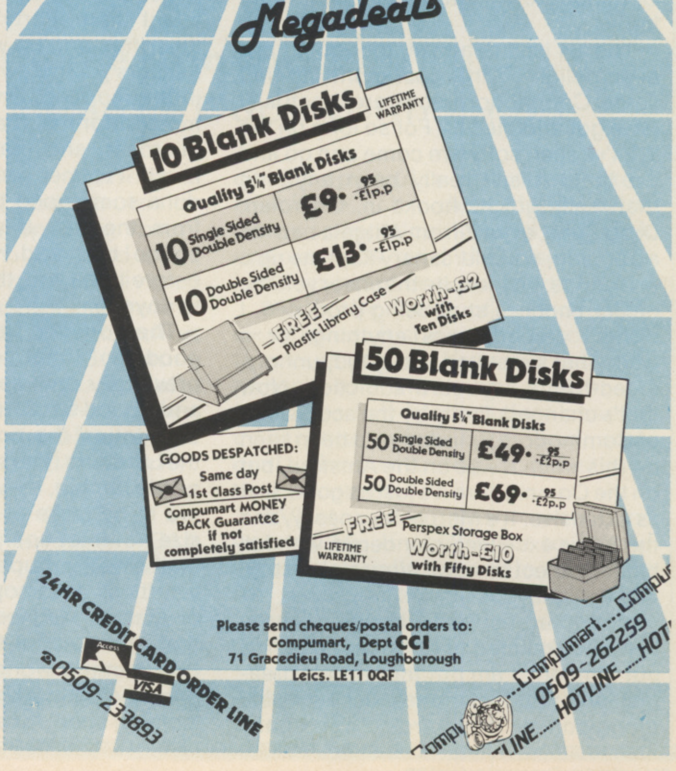

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Fighting Words

Jeff Minter speaks out

Commodore finally blew it. In pricing the Amiga at near enough £1800 they have ensured the continuing success of the Atari ST range and made certain that the Amiga will remain unavailable to the thousands of '64 users who would doubtlessly have snapped it up had it been priced more sensibly. There will still be a few enthusiasts (like me!) who will get the Amiga just for the sheer pleasure of owning the best micro in existence, but Amiga will never make the mass-market and therefore software will always remain prohibitively expensive. Games nuts can't afford to shell out £1800 on a system and £40 plus for the games to run on it.

My advice to you is to either get yourself an Atari ST, which although not as good as the Amiga technically, is still lightyears ahead of your '64 — and already has some brilliant games software available for it — or else hang on for six months or so and see what other manufacturers produce. Sinclair already designed a sub-£200 Amiga-ish machine, but didn't get the chance to have the custom chips built before they were swallowed up by Amstrad; whether Amstrad will continue to develop the product, or whether it will, as rumoured, license the Amiga technology off Commodore, I wouldn't like to guess. However, I would predict that within a year there will be a machine out there with similar capabilities to the Amiga at a sub-£400 price level. It won't be Commodore; it may be Amstrad or Atari, but that shouldn't stop all you frustrated Commodore Amiga owners from buying . . .

The '64 isn't dead yet, though. I have been delighted this past month to find some Commodore software I actually have got addicted to. For so long on the '64, I've seen software come and go and yet there hasn't really been anything that really got its hooks in. Guardian, Drop Zone, even Z from Alligata had me a-zapping, and Mercenary kept me up a few nights, but despite the sheer volume of Commodore stuff being produced, I haven't come across anything for a while that's resulted in a good, unholy, glued-to-the-keyboard addiction. Now that's changed, firstly by the acquisition of Commodore Spindizzy. I'd been keen on this when it was on the Amstrad, but on the Commodore it's just as good, just as extensive. It's Marble Madnessy, and the 3-D is excellently rendered, with full hidden object removal. Very clever stuff, and very playable.

More surprisingly, though, I have become addicted to a budget game! To put it mildly, I am not the world's greatest fan of budget games, but suddenly along comes Thrust from Firebird and I'm hopelessly hooked. Thrust is an old-style arcade game of the very kind whose demise I lamented last month. It's based on the arcade game Gravitar, and is a combination of Asteroids and Lunar Lander type gameplay. True, the graphics are not very detailed, but the game has a truly brilliant simulation of inertial mechanics, and is completely, utterly and hopelessly addictive. Worth at least a fiver of anyone's money, it's beyond me why Firebird released this on budget. It's brought me much more pleasure than many a £9.99 release, and that's what you buy a game for, isn't it? Not how many K it uses, or how long the tune is, or how many rooms it's got, but how much pleasure you get from playing it . . . right?

I've just been putting the finishing touches to my latest Compunet demo, called DNA. I enjoy doing demos for Cnet, and so do a lot of other people . . . for me, that is where Cnet really scores over Micronet; anyone can put stuff on Cnet for the enjoyment of all, and a lot of people do, whereas on Micronet it's impossible to upload stuff yourself, you have to sent it up to Micronet and they'll upload it if you're lucky. Smacks a little too much of censorship to me, and takes away some of the spontaneity that makes Cnet the excellent laugh that it is. Cnet's full of programmers, too, and there are some rare coding skills indeed displayed in some of the demos you find in the Jungle. Software houses in need of good '64 hackers could do worse than take a browse of some of the demo material on Cnet; there's a lot of coding talent there. Party's excellent fun too, you often end up with a few inebriated hackers jawing away till shutdown at 3 in the morning. Cnet is a whole whack more informal than either Prestel or Micronet, and that's why I love it so much. I've met some good people and done some good partying with people from the Net. If you can handle the phone bills and never going to bed before three a.m. then I'd recommend it to anyone.

The Commodore show just gone was good fun. I met some people who I'd previously only spoken to by modem, and a good booze-up was the result, not to mention the now-traditional trip to the Laserium. The show content seemed a little bit thin, the Amiga village turned out to be more of an Amiga bed-sit in size not a lot compared to, say, Atari's massive ST group at the last PCW. Ariolasoft has been hoping to show a demo of Marble Madness but unfortunately that didn't come through in time. I'm beginning to wonder whether the program actually exists or not. It's been 'coming soon' for so long . . . Mind you, there was an excellent demo on the Amiga of the Aegis Animator package, which had an animated picture of a lovely camel next to the Pyramids. Made me wonder what Revenge on the Amiga would look like!

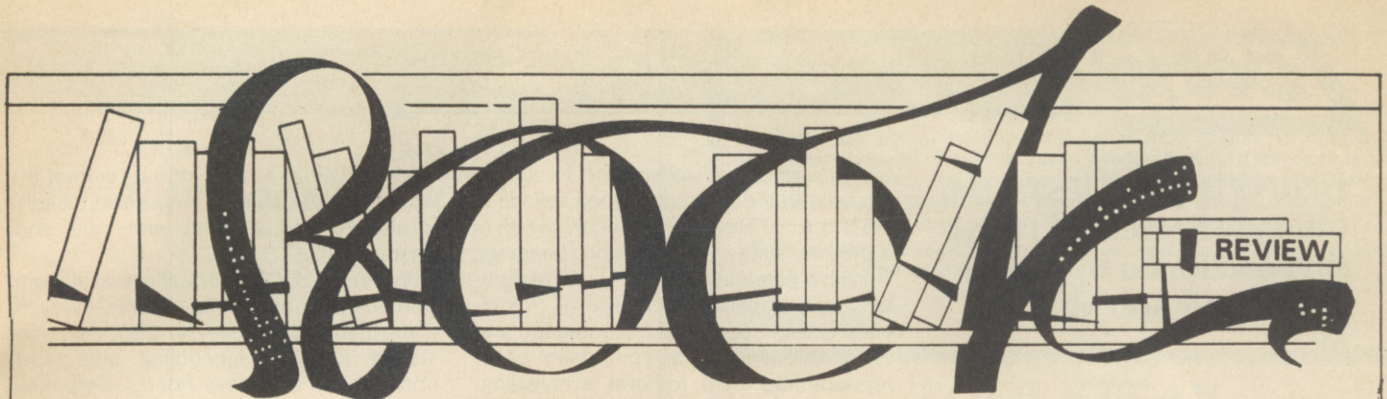
The Sound Expander system for the C64 was there, too, being demo'd by Rick Wakeman, but Chris Kaday was well over the top with his salesman bit at the demo I went to. Far better (and more impressive) to have let Rick let fly with some classic old Yes stuff, or Journey to the Centre of the Earth or something, rather than wasting him on mere advertising. The man sure can play keyboards. I bought one of the Sound Expander units while I was there, it's pretty good but at the moment I've only got tape-based software to drive it; the disk-based stuff has more options. What we really need is a good disk-based FM sound editor program so we can start creating our own voice for the system (please Commodore).

I was a little concerned recently to see that someone has released a program containing what is described as a light synthesiser. As the inventor of the light-synth I wondered whether it was in any way derived from Psych or Colourspace. I needn't have worried: what it DOES look like is the vector-graphic demo on the Synth Sample II musical collection . . . I wonder if they are by any chance related? Mind you, the light-synth in their program isn't the main thing; it's an accompaniment to the Tubular Bells sound track. Completely different from Psych. It's quite relaxing, and if you haven't got Synth Sample II, could be worth a look, if you're into psychadelics.

Mind you, if you're really into psychadelics you need an Atari ST running 16-bit Colourspace. Boot that up in a dark room with some Floyd on — and kiss your brains goodbye . . .

Dammit. That's one thing I'd really loved to have done — Colourspace on the Amiga. But now the Amiga has been effectively denied to those who would have appreciated 'Space there's not a lot of point. I can't imagine that the sort of business customers Commodore are aiming the Amiga at are going to enjoy freaking out in the dark with Colourspace. Looks like the ST's going to get Space II then . . .

Must finish now, gotta go out, and this next month gotta do a lot of work on my C64 game. Going to be difficult, what with Thrust and Spindizzy on the '64, Time Bandit, Joust, Colourspace, Star Raider and Spy Hunter on the ST, all distracting me from coding . . .



The Anatomy of the Commodore 128 – Gerits K. Schieb, J Thrun F. - £12.95.

The Anatomy of the Commodore 128 is part of a continuing series covering various items of Commodore manufactured hardware. The series started with the ubiquitous C64 in 1984 and has moved straight on to the C128 and its peripherals. The title is an apt and correct choice since this book does make a very good attempt at a difficult task. The level of knowledge about C128 is for the present limited and patchy. This book tries to fill some of the voids.

The format of the book follows that established in the previous volumes and can be divided into two. One half is of current and direct interest, namely the text about the machine in question; the second half, which has a longer term focus, is that of an annotated listing of the Kernal and Basic ROMs.

The first seven chapters cover the operation of the various special circuits such as VIC and SID although I do feel that this seems like padding. This may be a little harsh since some purchasers of the book could be new to Commodore and all of this unfamiliar to them. It is, anyway, worth reading through these chapters as occasionally there are snippets of information that clarify an obscure point or cover the implementation of the 6569 VIC-11 (which in this application is numbered 8564) and 6581 SID into the C128 from a programmers point of view.

Chapters five and six are where it really starts to happen. These cover the 8563 VDC circuit, 8721 AM circuit and 8722 MMU circuit respectively. The 8563 Video Display Controller provides the RGB1 colour display and the 80 column display format. It appears to owe little to the 8560 TED circuit of the PLUS/4 and even less to the 6569 VIC-II of the C64 and the authors quite rightly point out that this circuit is a powerful piece of hardware. Even high resolution 600 by 200 displays are within reach of this further demonstration of Commodores's strength in hardware design and production. The 16k of video RAM is kept from appearing on the system memory map and access can only take place through two address locations on the main memory map. This chapter gives some useful examples in 6502 assembly language or BASIC loaders of how to enter into this video RAM, along with demonstrations of 28 lines per screen instead of the normal 25 lines.

The 8721 Address Management and 8722 Memory Management Unit are examined in chapter 6 albeit briefly. I don't know whether it was lack of information or just limitations on the authors knowledge of hardware that caused this but perhaps it was decided that it would be just too technical to be of interest. Personally, I would have liked to have seen more, a lot more. The Z80 processor is given perfunctory treatment also, but in this instance there is another book in the pipeline dealing with it and CP/M on the C128, so I'll have to wait and see. It will be of great interest to see how the whole thing fits together on the C128. It certainly must have been a challenging project to the hardware engineers at Commodore.

The final chapter makes an effort to get to grips with the hardware overall, but fails because of insufficient depth. I feel that this book somehow lost direction in terms of either describing the hardware or operating system. Whichever topic readers chose, they would end up feeling frustrated by insufficient detail. Perhaps I'm asking too much. Black mark though for not having an index.

This book is not aimed at the new-user category, more the C64 old-hand and, because there's a lot of us about, the book will do well. Overall it deserves this success as it makes a credible effort to cover the C128 in 477 pages. However, the C128 has crossed the boundary of a machine that can be given this sort of coverage in the space of one book and it would have been sensible to have further volumes. I hope that the authors will read and act on this, because they can produce readable material.

Contact: 1st Publishing Ltd, Unit 20B, Horseshoe Park, Pangbourne, Berks. Tel: 07357 5244

Using the Commodore 16 –

Peter Gerrard – Duckworth £9.95.

Peter Gerrard, sometime Editor of and contributor to Commodore Computing International, is a prolific and successful author. On my shelves, I have not only books but many cassettes and disks including the Colossal Cave Adventure for the 64, which was originally written for a main-frame. When Gerrard covers a subject, he deals with it as a real authority. So you can be sure that 'Using the Commodore 216' is an essential read for any C16 owner, whether beginner or expert. Starting with an easy and quick refresher (or introduction) course in Basic programming, it goes on to explore the more sophisticated facilities of this popular if under rated machine. It describes windows, graphics, sound and disk commands and the use of the built-in machine code monitor.

With the help of lots of easy examples, it shows how to master everything from a simple game to machine code. It includes full-blown database, a complete adventure and several other amusing and instructive programs.

Whatever reason you got your C16, if you want to know what it's really capable of doing for you, read this book and you'll have all the C16's considerable power at your fingertips.

A.M.

UNINVITED GUESTS The Intimate Secrets of Television and Radio by Laurie Taylor and Bob Mullan - £9.95

Television is the one service which is far from servile. Touch a switch and it acts as a syphon through which the world (arguably) reaches us. But who's controlling whom? The argument runs that if T.V. offends, you can always switch it off. But you're reacting to a stimulus ... what's offensive is already there on-screen. You're trapped by a domestic intrusion, an uninvited guest, beyond your control.

When it comes to T.V. everyone is an expert, rating opinions of media 'experts secondary to our own debates on the previous night's viewing. It would be no little exaggeration to say that many programmes, both on t.v. and radio only exist in post-mortem, when they are disected, re-interpreted and criticised. Yet this 'resurrection' can possibly engender extreme results; hence the recent rise in suicide rates attributed to an attemtped suicide in the B.B.C.'s "Eastenders" and the death of a child imitating a comic botched hanging.

With a potentially limitless bank of opinion and experience at its disposal, "Uninvited Guests" takes this phenomenon and breaks it down into its component parts, reassembling them to form a revealing, entertaining book. Avoiding long lists of statistics, it reads like a collection of overheard snippets from private conversations - a truly intimate insight.

And what is discovered about this most necessary of accessories? Firstly, a most ambivalent relationship. We express guilt at watching it for any length of time, for building up a dependence, and we stress our independence through cynicism and disbelief. "Dallas" and "Dynasty" are prime examples of this, hooking both the dependent and those who enjoy it purely on the level of glossy, laughable trash (some even dressing up each week as Alexis or Krystal).

This "involved detachment" spreads to 'real' or 'live' events, e.g. sports, dramatic reconstructions, news etc. which are compiled with effect firmly in mind, an excitement governed by order ultimately leaving viewers feeling that the whole thing has been 'manufactured'. Even newsreaders, working within a strict format, cannot be accepted seriously and are avidly scrutinised and invested with traits and characteristics.

We forcefully deny any effects at all from 'the box', but viewers questioned evinced a most subtle influence in their views on station identity, scheduling and most importantly, what they notice. They may watch a programme, but how much do they actually see?

Perhaps the most telling example the book gives of the effect of T.V. on our perceptions is Donald Sinden's anecdote about some friends who had gone to see a comedy he starred in. He pointed out "I don't remember hearing you laugh" to which they replied, "Well, no, we wanted to lots of times but we were frightened of missing the next bit". They did not realise that 'real life' doesn't have to run to a programmer's schedule. You can adapt and change it, at whim. Our sensibilities are changing and the way we absorb and react has been infiltrated ... whether consciously or unconsciously, the programmers are programming us and this disturbing effect is surely the most uninvited of all guests.

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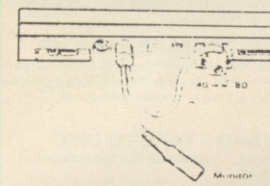

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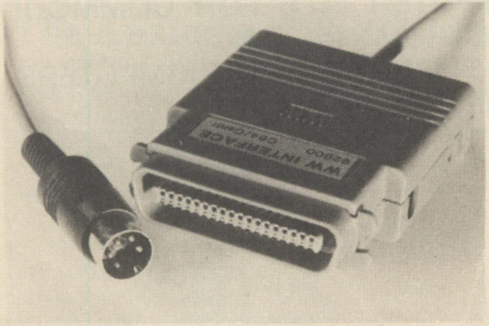

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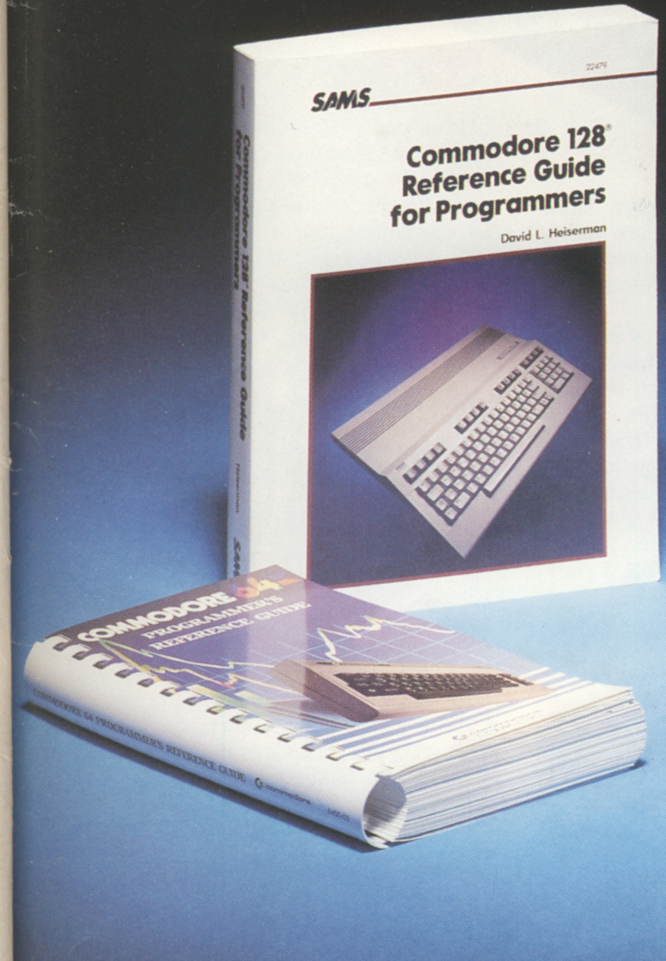
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